Personal Goals in Work and Private Life Domains: What Are the Predictors of Approach versus Avoidance Goal Orientation and what Are its Consequences?

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Summary

The present thesis concentrates on goal striving in the realm of personal goals and is dedicated to the investigation on antecedents and consequences of approach and avoidance motivation in personal goals within work and private life domains. Previous research has focussed mainly on stable dispositions as antecedents of approach and avoidance goal selection and cannot explain temporary, individual changes of approach and avoidance goal adoption. Thus, in Part I of the present thesis it is investigated whether the amount of personal resources affects approach versus avoidance goal adoption. Part II mainly considers whether avoidance goal striving and affective self-control are related to increased conflict between personal goals within work and private life domains.

Seven studies are reported in this thesis. Two longitudinal studies, one scenario experiment and one online-experiment of Part I reveal that a large amount of resources affects the adoption of approach goals. Furthermore, this relationship is mediated by the participants' outcome expectancy. In Part II, two longitudinal studies and one scenario-study demonstrate that avoidance goal striving within different life domains and affective self-control are related to enhanced goal conflict which, in turn, leads to impairment of performance and well-being.

The results of the seven studies have important theoretical implications. First, they complement existing findings on antecedents of approach and avoidance goals. Thereby the amount of resources is highlighted as an important determinant which is probably more eligible to predict the individual change of approach and avoidance goal selection. In addition, they pinpoint to outcome expectancy as a mediating mechanism of the relationship between resources and approach versus avoidance goal adoption. Second, they reveal that avoidance goals and affective self-control account for increased goal conflict. Finally, it is demonstrated that goal conflict not only impairs well-being but also performance.

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Introduction

Central to motivational analysis is the aim to explain goal-related behavior with respect to direction, persistence and effort. Goals are understood as key integrative and analytic units which try to explain persistence and performance within human behavior (Frese & Sabini, 1985; Gollwitzer & Bargh, 1996; Gollwitzer & Moskowitz, 1996; Heckhausen & Heckhausen, 2006; Rheinberg, 2006; Pervin, 1989). The goal concept did not only attract a lot of attention in basic research on motivation, but also proved to be a productive construct in related areas of basic and applied research. For example, goals play a pivotal role in self-regulation during life-span development (Baltes & Baltes, 1990; Brandtstädter, 1998; Heckhausen, 1997). In addition, goals are important predictors of performance at the workplace (Locke & Latham, 2002; Meyer & Allen, 1997, Roberson, 1990) and of successful therapy completion in clinical settings (Kanfer, Rheinecker & Schmelzer, 2000; Karoly, 1999).

Since the mid 1980s, the goals' functionality in explaining people's emotional life was highlighted. It was stated that progress on goals was substantially related to subjective well-being (e.g., research on *personal goals;* Brunstein, 1993; Emmons, 1986; Palys & Little, 1983). However, there is evidence that not all goals are equally suitable to predict well-being (Kruglanski, 1996), which encouraged a perspective on goal structures as potential moderators (e.g., motive-congruence, Brunstein, Schultheiss & Grässmann, 1998; goal difficulty, Wiese & Freund, 2005).

A prominent structural goal property that seems to have important consequences for subjective well-being is the orientation on positive versus negative outcomes (Elliot, 1999; Higgins, 1997). That means people are striving for positive, desirable goals (approach goals, e.g., I want to make a good impression) as opposed to striving to avoid negative, aversive goals (avoidance goals; e.g., I don't want to make a bad impression). The work on approach

versus avoidance goals illustrates that ratings of subjective well-being are strongly associated with an individuals' goal orientation, that is, avoidance goal striving leads to a decrease in subjective well-being (Elliot & Sheldon, 1998; Elliot, Sheldon & Church, 1997; Emmons & Kaiser, 1996).

The present thesis deals with approach and avoidance motivation in personal goal striving. The aim is to investigate two essential research questions with regard to antecedents and consequences of approach and avoidance goal striving.

First, even if there is convincing evidence that approach and avoidance goal adoption is anchored in stable dispositions (Elliot & Church, 1997; Elliot & Thrash, 2002; Higgins & Spiegel, 2004), it is conceivable that the adoption of approach versus avoidance goals might also be predicted by a more dynamic factor, such as the availability of resources. This consideration is supported by findings of life-span psychology which refer to personal resources as an underlying mechanism in the change of goal orientation during the course of a life time (Brandtstädter, 1998; Freund & Ebner, 2005).

Second, I study how the pursuit of avoidance goal striving, as opposed to approach goal striving, is linked to the perception of personal goal conflict (Emmons & King, 1988). Previous research on avoidance goal striving offers a perspective on self-regulatory mechanisms (e.g., Förster, Friedman, Özelsel & Denzler, 2006; Higgins & Tykocinski, 1992) which may be eligible to foster our understanding of the perception of goal conflict. This introduction gives a brief overview on goal research in order to introduce the present research focus. Then the research questions will be explained in more detail.

Task Goals as Analytic Units in Motivation Psychology

A goal is defined as an internal representation of a desired outcome. This means that goals represent internal, desired states toward which individuals aspire and continue striving until the experienced state sufficiently approximates the desired state (Austin & Vancouver, 1996; Gollwitzer & Moskowitz, 1996). Goal theories (e.g., Kruglanski et al., 2002; Pervin, 1989) make the following assumptions about the function and organization of goals: first, behavior is organized around the goal pursuit. Second, goals influence ongoing thoughts and emotional reactions in addition to behavior. Third, goals exist within a system of hierarchically organized superordinate and subordinate goals, where functioning in one aspect of the system has ramifications for other parts of the system. And finally, goals are accessible to conscious awareness, although there is no requirement of conscious representation during active goal pursuit (Emmons, 1996).

Early research and theoretical formulation were focused on *the choice of* specific *task goals* (e.g., I want to solve six anagrams within 5 minutes). The determinants and outcomes of the choice of task goals were experimentally investigated in laboratory and field settings (Atkinson, 1957; Trope, 1975, 1980; Weiner et al., 1971). In his risk taking model John Atkinson (1957) explored how situational factors, such as the value of a goal and outcome expectancy, in interaction with a person's motive could predict the selection of task goals varying in their difficulty.

In contrast, Locke and Latham (1990, 2002) concentrated on the *effects* of assigned task goals on task performance. In their goal setting theory, they argue that specific and challenging goals yield a better task performance than ill-defined 'do-your-best' goals which entail no challenges. This effect could also be replicated in the applied setting of organizational psychology and has stimulated several research questions in regard to goal-design in group work (Schmidt, 2004; Wegge, 2000; Wegge & Haslam, 2005).

In the past twenty years the focus was adjusted to self-set *personal goals* in order to guide research to a more naturalistic approach (Emmons, 1996; Brunstein, 1993). Personal goals can be defined by what individuals are striving for in their current life situations and what they seek to attain in various life domains (Brunstein, Dangelmayer & Schultheiss, 1996). Personal goals represent short term action intentions (*current concerns*, Klinger, 1977; *personal projects*, Little, 1983) or enduring and recurring efforts (*personal striving*, Emmons, 1986; *life tasks*, Cantor & Fleeson, 1991). These are all different forms of representing issues that are essential to the person's life. They emerge from and determine the nature of the person's transactions with his or her social world. Personal goals are mainly assessed as idiographic goal units. In a structural goal hierarchy personal goals typically have a "middle-level" of abstraction (Emmons, 1996, p. 314); therefore they are termed as middle-level units of analysis. That is, a personal goal (e.g., to pass an exam) could be generalized to subordinate goal with higher meaning in life (e.g., to be a successful person), and superordinate goals could concretize personal goals to specific activities and situations (e.g., to spend time for learning in the evening; Brunstein, Lautenschläger, Nawroth, Pöhlmann & Schultheiss, 1995; Carver & Scheier, 1999; Emmons, 1996).

Reflecting on, deciding between, and pursuing personally important and meaningful goals has crucial implications on psychological functioning. First, since personal goals serve as the "linchpin of psychological organization" (Klinger, 1998; p. 44), they provide meaning and purpose in life (Emmons, 2003). In addition, personal goals may serve as reference values that are used to guide goal-related actions. In their control theory of behavioral self-regulation, Carver and Scheier (1990, 1998) argue that behavior is a process of discrepancy reduction in which individuals act to minimize the discrepancy between their actual situation and their desired standard or reference value, thus between the actual situation and the desired goal.

Apart from these functionalities, taking the perspective of a motivational theory of subjective well-being (Emmons, 1986; Palys & Little, 1983) goal progress in personal goal striving is an important predictor of subjective well-being. Basically, this approach is built on the assumption that the successful pursuit of meaningful goals plays a crucial role in the development and maintenance of an individual's affective well-being, health or life-satisfaction, often referred to as psychological well-being (Brunstein, 1993; Brunstein et al., 1998, Diener, 1984; Schmuck & Sheldon, 2001). For example, in a longitudinal study by Brunstein (1993), goal progress was related to enhanced subjective well-being.

Moderating Influences of Personal Goals on Subjective Well-Being: Goal Properties

Nonetheless, not all personal goals contribute equally to an increase in subjective well-being. Under certain conditions, progress in goals might even have deleterious impact on subjective well-being. This individual variance in the relationship between goal progress and well-being alludes to potential moderating influences (Kruglanski, 1996). Thus far, several goal-theories concentrate on *goal content* and *structural goal properties* as possible moderators.

Goal Content. When it comes to psychological well-being, the content of aims and ambitions people are striving for is crucial. For instance, certain goal clusters consistently tend to foster higher levels of well-being than other types of goals. According to Emmons (2003), three *types of goal striving* consistently relate to subjective well-being, particularly higher positive affect: intimacy (a concern for establishing deep and mutually gratifying relationships), generativity (a concern of giving of oneself to others and having influence on future generations), and spirituality (a concern for the ultimate purpose, ethics and seeking of the divine in daily experience). On the contrary, power strivings tend to be associated with higher levels of negative affect. Emmons explained this effect by arguing that intimacy, generativity, and spirituality strivings compared to power strivings are intrinsically rewarding domains of goal activity that render lives meaningful and purposeful.

Taking the same line, Kasser and Ryan (1993, 1996) demonstrated that the *relative importance of different goal content* profoundly affects well-being. Their studies revealed that the rated importance of extrinsic goals like financial success, social recognition and physical attractiveness were substantially linked to lower well-being, e.g., declined health und increased anxiety and depression. Conversely, people who rated intrinsic goals like self-acceptance, community contribution and personal growth as more important than the extrinsic ones reported enhanced well-being. The authors argue that the relative importance of extrinsic goals would neglect the striving for goals that meet intrinsic human needs (e.g., Deci & Ryan, 1985) and as a consequence would not enhance well-being.

A related approach based on the notion of individual strength of motive dispositions (McClelland, 1985) asserts that goal content which is congruent with the issues to which implicit or explicit motives are devoted to is more likely to predict subjective well-being (Baumann, Kaschel & Kuhl, 2005; Brunstein et al., 1998; Job, Langens & Brandstätter, in prep.). For example, Brunstein and his colleagues (1998) showed that only progress of motive-congruent goals predicted subjective well-being, whereas commitment to motive-incongruent goals detracted from subjective well-being.

Structural goal properties. Structural goal properties refer to inherent features of goals and are also considered to moderate the relationship between goal progress on personal goals and subjective well-being. One example is perceived *goal difficulty* that might not only foster performance (cf. Locke & Latham, 2002), but also prompt positive emotional reactions when goals are attained. Indeed, Wiese and Freund (2005) demonstrated in a 3-year longitudinal study that only adults who rated their personal work goals as difficult to reach subsequently reported stronger subjective well-being. The authors explained this result according to the assumption that hard goal might lead to more pride and self-respect (Mento, Locke & Klein, 1992).

Another structural goal property which is relevant for the relationship of goal progress and well-being is the *level of goal specification.* People differ in their preference to frame their goals in either a broader, abstract way (e.g., working on the new paper) or in tangible, specific terms (e.g., write at least three pages of the new paper; Little, 1989; Vallacher & Wegner, 1989). Even though these goals may be functionally equivalent, Emmons (1992, 1996) reported on the basis of several studies that high level strivings affected psychological distress, particularly anxiety and depression, whereas low level strivings, although they might enhance well-being, could be linked to more physical illness. According to Little's (1989) argument, he attributed these outcomes to the trade-off between having manageable versus meaningful goals.

A further structural goal property is the valence of a goal expressed in the goal orientation (Elliot, 1999; Higgins, 1997). Whereas in approach motivation a focus on positive outcomes (e.g., "trying to spend time with others") serves as a benchmark for self-regulatory activities, possible negative consequences are tried to be avoided or prevented in avoidance motivation (e.g., "avoid being alone"). Literature on motivation has demonstrated that these differing orientations lead to very different consequences, even if similar goal content is involved (for a review, Elliot & Friedman, 2007; Higgins & Spiegel, 2004). For instance, a large amount of avoidance goals is related to impairments in affective and cognitive ratings of life-satisfaction and health (Emmons & Kaiser, 1996; Elliot et al., 1997; Elliot & Sheldon, 1998).

With the distinction between approach and avoidance motivation a broad research perspective on affective, cognitive and behavioral processes in relation to personal goal striving has been put forward in the last decade. The present work will focus on *antecedents and consequences of approach and avoidance goals* thereby drawing on the broad findings of the extant literature.

An important characteristic of the conducted studies is that approach and avoidance goals are not exclusively investigated in one life domain (e.g.,work or educational life domain), but that they are in fact considered in two life domains at the same time. On the one hand, this research focus was influenced by the results of research on people's value orientation in life (Inglehart, 1997; Inglehart & Baker, 2000; Oviada, 2003) stressing that in postmodern societies both professional career and activities in private leisure time are regarded as being equally important. On the other hand, the present studies were designed to correspond to an even more naturalistic approach of personal goals by simultaneously investigating two important life domains in relation to each other.

Taking these explanations into consideration, the following section will present the research questions of the present empirical work. Despite the substantial body of research on antecedents and consequences on approach versus avoidance motivation the questions below have to date received little attention. Part I of the presented thesis focusses on an *antecedent of approach and avoidance goal adoption*, whereas Part II highlights *consequences of simultaneous avoidance goal striving* in different life domains on goal conflict.

Part I: The Adoption of Academic and Leisure Approach Goals: The Role of Resources

Since avoidance goals are linked to numerous negative consequences, attempts to detect underlying factors for the adoption of approach versus avoidance goals are of large interest. Thus far, most of the research has been concerned with the strength of stable dispositions, such as fundamental needs, motives or temperaments (Elliot & Church, 1997; Elliot & McGregor, 2001; Elliot & Sheldon, 1998; Elliot & Thrash, 2002; Higgins & Spiegel, 2004). As a consequence, the selection of approach as opposed to avoidance goals was founded in the strength of stable characteristics of individuals. New findings, however, point to the fact that approach and avoidance goal adoption may vary temporarily as a result of personal

experience which complements the idea of goal striving strategies anchored in personal disposition (Fryer & Elliot, 2007; Senko & Harackiewicz, 2005).

Based on the findings from the perspective of life span psychology (Baltes & Baltes, 1990; Brandtstädter, 1998; Ebner, Freund & Baltes, 2006; Freund & Ebner, 2005), the present studies explored whether the availability of resources causes the adoption of approach versus avoidance personal goals in different life domains as well as the adoption of specific approach versus avoidance task-goals. I hypothesized that a strong amount of resources is associated with approach goal selection whereas few resources induces a preference for avoidance goal adoption. Furthermore, the relationship between resources and approach versus avoidance goal adoption was assumed to be mediated by the participants' outcome expectancy. Resources are conceptualized as dynamic means of goal striving and in so far represent an alternative antecedent of approach and avoidance goal adoption in comparison to stable dispositions.

If one assumes that few resources lead to a preference for avoidance goal adoption, the striving for these avoidance goals will gradually be linked to a series of negative consequences. In particular, several studies showed that the pursuit of *one* avoidance goal is substantially associated with considerable impairments in subjective well-being and performance (Crowe & Higgins, 1997; Förster, Higgins & Idson, 1998; Elliot & Sheldon, 1998). However, to date no findings are reported on how the simultaneous striving for *multiple avoidance goals*, especially within different life domains, is related to self regulation. Part II will contribute to this question by linking multiple avoidance goal striving, as opposed to approach goal striving, in work and private life domains with the experience of goal conflict within these domains.

Part II: Personal Goal Conflict between Work and Private Life Domains: Motivational Antecedents and Consequences

Classic approaches as well as contemporary work in the field of motivation literature have analyzed various processes of goal striving on the basis of a singe goal (e.g., Atkinson, 1957; Locke & Latham, 1990; Gollwitzer & Brandstätter, 1997). The present work expands on the stated criticism with regard to this simplification of naturally occurring goal striving (Austin & Vancouver, 1996) and focuses on simultaneous, multiple goal striving within different life domains.

When focussing on multiple goal striving the issue of *goal conflict* (Emmons & King, 1988; Riediger & Freund, 2004) is central, that is, the progress of one personal goal (e.g., to stay at home and study for an exam) is at the expense of the striving for another important personal goal (e.g., meeting friends in the evening). Goal conflict represents a common phenomenon and has negative implications on subjective well-being and health.

However, relatively little is known about motivational antecedents of goal conflict and implications of goal conflict on performance impairment. Therefore, the aim of Part II was twofold: first, research was done on motivational variables within a person (i.e. avoidance goal striving, affective self-control) to provide a possible explanation of the emergence of goal conflict. And second, studies were carried out to gain insight in the relationship between goal conflict and subsequent performance impairment.

I address the question of motivational antecedents of goal conflict by arguing that avoidance goal striving leads to numerous biased cognitive processes (e.g., salience of negative information, for a review Higgins & Spiegel, 2004; Werth & Förster, 2007) which can explain the increased emergence of goal conflict. Based on self-regulatory findings in literature of motivation, I explore whether avoidance goal striving, as opposed to approach goal striving, predicts enhanced goal conflict between work and private personal goals. Additionally, it is asserted whether affective self-control (as an individual self-regulatory

competence) is positively related to goal conflict. Affective self-control describes the self-regulatory strategy to focus on self-discipline and anxious self-motivation (Fröhlich & Kuhl, 2003; Kuhl & Fuhrmann, 1998). Since people with strong affective self-control motivate themselves through negative cognitions and emotions, it is hypothesized that these people prefer to pursue avoidance goals, which subsequently leads to enhanced goal conflict.

When considering consequences of goal conflict, empirical work on performance impairment due to goal conflict is rare. A few studies reported a negative relationship between conflict of work-goals and performance (e.g., Barling, Rogers & Kelloway, 1995; Locke, Smith, Erez, Chah & Schaffer, 1994). To date, no findings exist on the performance impairment due to the conflict between *personal goals* within work and private life domains. Therefore, the studies on hand represent an attempt to demonstrate a relationship between work and private goal conflict and performance impairment in a longitudinal field study.

The key message connected with this research implicates the following: Pursuit on personal goals is most effective and beneficial for psychological functioning when people focus on positive events and outcomes. This is not only true for single goal striving, but especially when people have to manage several goals within different life domains at once. An adequate amount of resources bears a helping hand in sustaining the focus on positive outcomes in the process of goal striving.

Part I

The Adoption of Academic and Leisure Approach Goals:

The Role of Resources

Abstract

In the present study we investigated whether the daily adoption of approach versus avoidance goals and specific task goal selection are affected by the perceived amount of resources. We tested this hypothesis in two longitudinal studies and two experiments with students. Subjective well-being and goal pursuit were additionally investigated as consequences of approach versus avoidance goals. Results clearly indicate that having a strong amount of resources predicts an increase in approach goals for both personal goals in the academic and leisure life-domain and specific task goals. Outcome expectancy was found to mediate this relationship. Additionally, both academic and leisure approach goals predicted an increase in well-being and goal pursuit. The findings nicely complement existing research on resources as antecedents of goal orientation within life span development.

Introduction

Imagine a person who has no time constraints, is alert, feels energetic and is concentrated while working on her goals. When asked for her personal goals, she might focus on positive outcomes and strive for e.g., “successfully pass an important exam” in her academic life domain and “meeting close friends during the week” in her private life domain. She subsequently might be in good mood and successfully strive for her goals. Try then to picture the same person in completely diverse circumstances. She is tired, feels floppy and she can’t concentrate while working on her goals. In the last weeks, she constantly was pressed for time. Again asking for her goals in that given situation, she might focus on potentially negative outcomes and strive for “avoiding to fail an important exam” and “not cancelling the date with her close friends”. As a consequence, she might be in a depressed mood and might have little success in realising her goals.

In the present work we focus on this very phenomenon, that is that resources account for changes in the adoption of approach versus avoidance goals which in turn elicit positive or negative affect and success in goal progress. As we will explain in the following section, we investigate resources as a possible antecedent of the adoption of approach versus avoidance goals during daily pursuit of personal goals and the pursuit of specific task goals. Furthermore, we will relate subjective well-being and goal progress to the adoption of approach and avoidance personal goals as possible consequences. To generalize the findings of previous work in the achievement domain, we focus not only on approach versus avoidance goals within the achievement domain but also consider leisure-related private goals. We suggest that both goal types are influenced by the amount of resources and do affect the outcome variables subjective well-being and goal progress.

Approach versus Avoidance Goals and their Antecedents

Central to our research is the distinction of approach and avoidance motivation within the goal construct. A goal is a cognitive representation of a possible state or outcome that an individual seeks to attain and that serves a directional function by guiding individuals toward anticipated end-states (Austin & Vancouver, 1996; Carver & Scheier, 1999; Emmons, 1986; Gollwitzer & Moskowitz, 1996; Little, 1983). According to the hedonic principle (Förster, Higgins & Idson, 1998; Freud, 1920/1950, Higgins, 1997; van Prooijenen, Karremans & van Beest, 2006) all human beings are motivated to approach pleasure and avoid pain. Consequently, in approach motivation the behavior is instigated or directed by a positive/desirable event or possibility, whereas in avoidance motivation behavior is directed by a negative/undesirable event or possibility (Elliot, 1999; Higgins, 1997). For instance, one may *try to pass* an exam or one may *try not to fail* an exam in the academic life domain.

So far, most of the research dealt with enduring temperaments or personal predispositions that predicted the adoption of approach versus avoidance goals. In this line, research focused on motives and fundamentally different needs as preceding conditions of approach versus avoidance goals (Elliot & McGregor, 2001; Gable, 2006; Higgins, 1997; Higgins & Spiegel, 2004). For example, Elliot and Sheldon (1997) demonstrated that motive disposition such as implicit or explicit fear of failure prompt the adoption of achievement avoidance goals. Other research showed that people who are highly inhibited in their behavior (Gray, 1970) also adopted more avoidance goals, whereas people with a strong behavioral activation system selected more approach goals (Elliot & Thrash, 2002; Emmons & McAdams, 1991; Heimpel, Elliot & Wood, 2006). Additionally, personality traits such as agreeableness, consciousness, extraversion, emotional stability and openness to experience, frequently referred to as the "Big Five" (Costa & McCrae, 1992), were linked to approach versus avoidance goals. Both low emotional stability and extraversion predicted the selection of avoidance goals (Elliot, Sheldon & Church, 1997; Payne, Youngcourt & Beaubien, 2007).

Finally, research embedded in the cross-cultural context of approach and avoidance goals pointed to independent self-construal as predictor of approach goals whereas interdependent self-construal was associated with strong avoidance goals (Elliot, Chirkov, Kim & Sheldon, 2001; Lee, Aaker & Gardner, 2000) To conclude, the adoption of approach and avoidance goals is influenced to a high degree by stable personality-dispositions and as a consequence was conceptualized as stable construct by many authors.

Despite the agreement that approach versus avoidance goals are anchored in stable dispositions, recent studies suggest that the adoption of approach and avoidance goals may change temporarily within an individual (Fryer & Elliot, 2007). Since optimal self-regulation requires among others monitoring the experience of goal pursuit, evaluation of goal progress, and contemplating the need for goal revision (Shah, Kruglanski & Friedman, 2002; Wrosch, Scheier, Miller, Schulz & Carver, 2003), goal shift from approach to avoidance goals (or vice versa) may serve as a self-regulatory strategy in that external circumstances of goal pursuit are taken into consideration (Senko & Harackiewicz, 2005; Zimmerman & Kitsantas, 1997). If this were the case, then there must be antecedents which are less constant than motives or temperaments and which predict the dynamic adoption of approach and avoidance goals.

Resources as Antecedents of Approach and Avoidance Goals

In this reasoning, Ebner, Freund and Baltes (2006) conceptualized goal orientation as dynamic construct along life development of individuals. These authors studied goal orientation from the perspective of life span psychology and a central hypothesis is that dynamic antecedents such as “changes in developmental opportunities and constraints across adulthood are reflected in personal goal orientation” (Ebner et al., 2006, p. 665). In their work, goal orientation toward growth or toward prevention of loss was tested as a function of changes according to age related factors, such as the expected resource demands for goal attainment (Ebner et al., 2006; Freund, 2006; Heckhausen, 1997). The differentiation of goal

orientation toward growth and toward prevention of loss translates into the motivational construct of approach and avoidance goal (Freund & Ebner, 2005). They found that older adults were significantly stronger committed to prevention of loss goals than younger adults. In an experimental setting they demonstrated that this goal selection differed as a function of expected resources demands. That is, from the perspective of life span psychology, people need to adapt to and master changing development opportunities and constraints. One way of managing the balance of gains and losses is the selection of age-appropriate goals by shifting the orientation on one's goals from growth toward loss prevention (Baltes, 1997; Ebner et al., 2006). Hence, one can assume that a dynamic factor such as age-related resources is predictive for changes in approach and avoidance goal adoption.

In the present research we are not only interested in whether the amount of resources moderate the adoption of goal orientation between people of different ages, but also if resources predict the adoption of approach versus avoidance goals during daily life experiences of personal goal pursuit and, even more specific, in the pursuit of a specific task-goal. We hypothesize that people with a large amount of resources select more approach goals, whereas people with few resources will prefer avoidance goals. Therefore, the postulated relationship of resources and goal orientation is transferred into a narrower micro-perspective of goal pursuit. Furthermore, by treating resources as a potential antecedent of approach and avoidance goals, we contribute to recent research of dynamic antecedents of approach and avoidance goals (e.g., competence feedback, Senko & Harackiewicz, 2005). To summarize, with the focus on resources as important factor on the quotidian goal selection we hope to contribute to the understanding of approach and avoidance goals as a dynamic form of self-regulation in goal striving.

Psychological Well-Being and Goal Progress as Consequences

Approach and avoidance motivation is posited to have important implications on behavior, cognitive processes and affective experiences. For instance, striving for approach (relative to avoidance) goals is positively related to persistence (Crowe & Higgins, 1997; Förster, Higgins & Idson, 1998), graded performance (Elliot & McGregor, 2001; Elliot & Church, 1997) and is associated with the speed of task-initiation (Freitas, Liberman, Salovey & Higgins, 2002). Additionally, evidence from several studies suggested that approach and avoidance strategies are associated with a bias in information processing (Aaker & Lee, 2001; Higgins & Tykocinski, 1992; Seibt & Förster, 2004). Higgins and Tykocinski (1992), for example, showed that people following an avoidance strategy more often recalled the presence and absence of negative information within biographic experiences. Finally, research on approach versus avoidance goals linked motivation-based affective experience on the one hand (Higgins, Bond, Klein & Straumann, 1986; Higgins, Shah & Friedman, 1997; Pekrun, Elliot & Maier, 2006) and concrete constructs such as psychological and physiological well-being, on the other hand to the approach and avoidance form of motivation. More precisely, recent research suggested that the pursuit of approach goals is related to a decline in physical symptom reports (Elliot & Sheldon, 1998) and to an increase in subjective well-being (Elliot et al., 1997).

In our studies we will concentrate on affective and cognitive judgements of well-being as well as on self-reported measures of goal progress and will therefore try to replicate existing findings. However, as we will not restrain our analysis to personal goals in achievement settings, our extended focus on the leisure life domain can possibly lead to a generalization of the findings.

Extended Research Focus on Approach versus Avoidance Leisure Goals

Most of the literature addressing the question of antecedents and consequences of approach and avoidance personal goals is limited to the achievement domain in the academic context (Coats, Janoff-Bulman & Alpert, 1996; Elliot et al., 1997; Elliot & McGregor, 2001; Elliot, Maier, Moller, Friedman & Meinhardt, 2007; Elliot & Sheldon, 1998; Fryer & Elliot, 2007; Senko & Harackiewicz, 2005). Goal striving in the academic life domain is highly structured and associated with clearly stated demands (e.g., to pass an exam, to get along with general study demands, to organize interns). However, compared to goal striving in the academic life domain, people adopt their leisure goals within the private life domain (e.g., to have enough time for oneself, to have time for hobbies, to stay in contact with close friends) more autonomously (Ratelle, Vallerand, Senécal & Provencher, 2005).

Thus, to the extent that academic and leisure-contexts differ in their degree of structure, unambiguousness of demands and self-determination, new theoretical findings on resources as antecedents of approach versus avoidance goals would allow generalizing these results to different life contexts. Similarly, findings of well-being and goal progress as consequences of approach versus avoidance leisure goals will also increase the validity of consequences within our and also previous findings on approach versus avoidance goals in the academic life domain. Finally, a research perspective that considers both academic and leisure personal goals reflect the natural occurrence of goals in different life domains and therefore reflects a stronger authenticity of daily goal pursuit.

To our knowledge, no empirical findings exist on the relationship of antecedents and consequences of approach versus avoidance leisure goals. In our analyses of approach versus avoidance motivation we will focus on goals with academic-related content as well as on goals with leisure-related content.

The Present Studies

To summarize, our studies were guided by three central objectives. First, we wanted to gain new insight in potential antecedents in the regulation of approach versus avoidance goals. Hence, we were interested if the amount of resources has a direct effect on the daily and task-specific adoption of approach and avoidance goals. Second, we wanted to replicate and extent previous findings that approach versus avoidance academic and leisure goals are linked to ratings of psychological well-being and goal progress. Third, leisure goals are taken into account as an integrated approach on daily pursuit of personal goals. By considering both academic and leisure goals we hope to generalize our findings to different domains of everyday life goals.

Our empirical work consists of two longitudinal studies where we test the relationship between resources, approach versus avoidance goals in academic and leisure life domain, and associated consequences. In the first longitudinal field study we aim to test the relationship between resources, approach versus avoidance goals and subjective well-being by taking the chronological sequence of the central variables into account. The second field study considers the limitations of the first study and is consequently based on a more heterogeneous sample. Moreover, it considers a longer time period, assesses goal progress as an additional consequence of approach versus avoidance goals and finally concentrates on the prediction of changes in approach goals in dependence of resources. A third study is designed as an experiment, underlining the causal relationship of resources and approach and avoidance goals. In a fourth experimental study, the perspective on goals is narrowed again, with specific task goals as dependent variable. Additionally, we make a first attempt of investigating a possible mediating mechanism between resources and approach goal adoption. Until now it remains unexplained *why* people may report a decline in approach goals when they only have few resources. We suppose that a decline in approach goals could be due to a previous decline of task specific outcome expectancy. A very similar concept, that is

perceived competence, was already found to predict approach and avoidance goals (Seifert, 1995; Elliot & Church 1997). Dweck and Elliot (1983) suggested that people might revise their goals as their perception of competence changes. Hence, we hypothesize that a loss in resources should decrease outcome expectancy of attaining the task goal and, subsequently, results in the adoption of avoidance goals.

Study 1

The aim of Study 1 was to gain first insight in the assumed relationship between the amount of resources, approach and avoidance goals and subjective well-being. The amount of goal-relevant resources is expected to predict approach versus avoidance goals in the academic and leisure life domain. The more resources students perceive the more approach goals they will indicate subsequently. The adoption of approach goals, as opposed to the pursuit of avoidance goals, is a precedent condition of strong subjective well-being.

Method

Participants and Procedure

A total of 333 undergraduates participating in an introduction course of psychology at the University of Zurich filled out the first questionnaire. Fifty students did not participate in all of the following questionnaires and were excluded from the further analyses. The attrition rate was 15%, resulting in a total of 283 (228 female and 55 male) students that participated in the study. Participants who did not complete the full web-based study did not systematically differ from the participants who completed the questionnaires in any variables. Most participants (83%) were freshman students, with a mean age of 23.47 (*SD* = 6.58) years.

Participants were told that the study was aimed at investigating the personal goals of first-semester students. Since the whole study was web-based[1], at all testing period participants were notified the web-link for the online-questionnaire. A personal ID code warranted the anonymity of the participants. All participants received an extra-credit for their participation.

Longitudinal Design

The data presented here were part of a major longitudinal research project addressing the question of personal goal striving, motive-congruence and subjective well-being. The study was conducted at three testing periods throughout the course of a semester-long period. Five weeks after the beginning of the winter term, participants filled out the first questionnaire (T1, November). The second (T2, December) and the third testing periods (T3, January) occurred three and seven weeks after the first period. The variables were measured in consecutive order, suggesting a time-delayed relationship. That is, resources were assessed on T1, approach versus avoidance goal in academic and leisure life domain on T2 and subjective well-being on T3.

Measures

Resources. Participants indicated the amount of their resources on a scale that comprised ten different resources. The selection of resources-items was withdrawn from a list of "that was designed to capture diversity in the kinds of factors that can help a person to achieve his or her goals" from Diener and Fujita (1995, p. 929). We limited their list of 21 resources to those resources that were interpreted as relevant for the actual life conditions of freshman-students. That is *self confident, self-discipline for work, social skills, concentration, energetic, assertive, family support, close friends,* and *stress resistance*. Furthermore, assuming that the amount of available time is one of the most important resources for persistence in private and

[1] We worked with the free-ware php surveyor (http://psychmserver.unizh.ch/phpsurveyor/admin, Retrieved February 27, 2008).

academic goal striving, we added the item *time.* Separately for each resource participants compared themselves with the average student on a scale between 1 (*much below average*) to 7 (*much above average*). For the ten item scale the reliability was Cronbach's $\alpha = .64$. We would not expect a higher consistency in that these items reflect a very allocation of distinct personal means.

Approach and Avoidance Personal Goals

Development of the Approach versus Avoidance Personal Goal Questionnaire. To assess approach and avoidance goals, we generated a measure that comprised academic and leisure goals in approach and avoidance goal phrasing. These goals were obtained from a pool of over 400 goals named by students in prior studies (Job & Brandstätter, in prep.). In these studies, participants were asked to indicate what they tried to achieve during a semester-long time period. We aggregated these goals by analyzing the content into 37 superordinate categories. The categories which were named most frequently were included in the final list of eleven academic and eleven leisure goals. This list was presented to 58 pilot participants who indicated how important those goals are in their momentary life situation (1 = *not at all,* 6 = *very important*). Each goal had a mean descriptiveness rating in the top third of the scale (greater than 5). Our intention was to present participants broad relevant goals for each of which they only had to indicate their motivational orientation with which they strive for them.

We subsequently formulated the goals in approach as well as in avoidance phrasing, thus focussing on the valence without changing the content of the goal. For this purpose, each goal was labelled with a global title (e.g., "*exam*") and was presented in approach (e.g., *"I want to pass the exam")* and avoidance (e.g., *"I don't want to fail the exam."*) goal phrasing. We balanced the length of the goal-wording for the two distinct goal phrasings. The approach and avoidance phrasings were displayed randomly at two end poles of a continuum. This measure was presented as a dichotomous forced choice scale where participants could omit those goals to which they did not feel committed at the moment.

Assessment of Approach versus Avoidance Personal Goals. The assessment of approach versus avoidance personal goals was based on the newly developed measure described above. Participants had to rate for nine academic and nine leisure goals[2] whether they strive for these goals in approach or avoidance goal phrasing. In the instruction the students were told that "it is well-known, that people fluctuate in their goal-phrasing. So it depends on the personal form of a day how people phrase their goals." Participants were then asked to indicate for each of the academic and leisure goals which of the two different phrasing represent best their momentary goal pursuit.

Of nine presented academic goals, participants selected on average a total of 6.56 goals (*SD* = 1.52), whereas 5.05 (*SD* = 1.78) of them were in approach goal phrasing and 1.51 (*SD* = 1.35) were in avoidance goal phrasing. When considered for leisure approach goals, the total amount of chosen goals was 6.32 (*SD* = 1.81). On average, 4.84 (*SD* = 1.95) of the nine presented leisure goals were selected in approach goal phrasing, and 1.48 (*SD* = 1.33) in avoidance goal phrasing.

We calculated an index of the proportion of approach goals[3] for each life domain by relating the amount of chosen approach goals to the total number of goals elected by the individual. Given that approach and avoidance were coded dichotomously for each goal, the index can be interpreted twofold. A high index represents a high proportion of selected approach goals and a small proportion of chosen avoidance goals.

Subjective Well-Being. In the third testing period (T3), participants filled out a 10-item questionnaire (Brunstein, 1993) assessing both affect ratings and cognitive judgement of well being. Affect ratings consisted of a series of eight adjective ratings. Positive mood was assessed by four adjectives (*happy, joyful, pleased* and *confident).* The other four adjectives

[2] In favour of an alternative research questions, we presented the academic and leisure goals with motive-specific content (McClelland, 1985). Therefore, the goal list comprised only nine goals, covering three power-related, three achievement-related and three affiliation-related goals

[3] In order to minimize the complexity of approach versus avoidance goal indices, we will, in our further analyses, refer to the proportion of approach goals. Note that, due to the dichotomous assessment of approach versus avoidance goals, this index could also inversely be interpreted as proportion of avoidance goals.

(*sad, depressed, frustrated* and *anxious)* yielded the negative mood scale. Participants specified the extent to which they had felt these moods "during the past few days" (from 1 = *not at all* to 7 = *very frequently*). The reliability of each of the mood scales was high (positive mood: Cronbach's α =.90; negative mood: Cronbach's α = .84).

To measure the cognitive judgement of well-being, participants indicated their satisfaction of life on the two items "*At present, I am completely satisfied with my life*" and "*In the near future a lot of things will have to change before I feel satisfied with my life*" (recoded), on a 7-point scale from 1 = *completely disagree* to 7 = *completely agree*. The items focused the individual's attention on the present state of her or his everyday life situation. The correlation between the items at the testing period three was r = .71, p <.01.

For preliminary analysis, a subjective well-being index was created by summing the standardized scores for positive mood and life satisfaction and subtracting the standardized score for negative mood (see Brunstein, 1993, Emmons & Colby, 1995) The Cronbach's α for the subjective well-being index was .92.

Results

Descriptive Statistics

The descriptive statistics of Study 1 are presented in Table 1. The observed range for academic approach goals was between 0 and 1, with a mean index of .77 (*SD* = .28). That means 77 % of the academic goals chosen by the participants were in approach goal phrasing. For leisure approach goals, the index also ranged from 0 to 1 with a mean index of .72 (*SD* = .26), indicating that 72 percent of the leisure goals were elected in approach goal phrasing. With an approach goal mean index of above .72 in both life domains, this proportion is in line with other empirical work (Elliot & Sheldon, 1998; Elliot, Sheldon & Church, 1997).

Table 1 Descriptive Statistics of All Variables (Study 1)

Variables	*M*	*SD*	*Min*	*Max*
T1 Resources	4.20	.62	2.30	6.00
T2 Academic Approach Goal	.77	.28	.00	1.00
T2 Leisure Approach Goal	.72	.26	.00	1.00
T3 Subjective Well-Being	.01	2.62	-8.20	5.19

Note. N = 283. T1 = time 1; T2 = time 2; T3 = time 3

Strategy for Analysis

The primary focus of the study was to investigate a model with latent variables to describe the chronological relationship of resources, approach goals in academic and leisure life domain and subjective well-being. This structural equation model was evaluated with AMOS 6.0 (Arbuckle, 2005).

The Measurement Model

Since both the latent predictor variable amount of resources and the latent mediator variables academic and leisure approach goals were one-dimensional constructs, we examined the item-to-construct relations in order to build balanced parcels of each indicator. We anchored the three parcels by using the three items that loaded highest in a single factor exploratory factor analysis for each latent variable. The items loading highest were matched with the lowest loading items from among the second selection, and again with the highest loading items from among the third selection (Little, Cunningham, Shahar & Widaman, 2002, p. 166). Applying this method, the latent variables Resources T1 was assessed by two indicators consisting of three items (res_1, res_2) and one indicator consisting of four items (res_3). Academic Approach Goals T2 and Leisure Approach Goals T2 were each assessed by three indicators

which itself were generated by three items. All three well being ratings (positive mood, negative mood and satisfaction with life) accounted for three manifest variables which constitute the criterion variable subjective well-being T3 (the scale negative mood was recoded).

Results of the Structural Equation Modelling

We assessed the goodness of fit of the model by using the chi-square test, the root-mean-square-error of approximation (RMSEA), and the comparative fit index (CFI). A nonsignificant chi-square test, value of RMSEA less than .06 and a CFI greater than .95 are indicative of a satisfactory fit (Hu & Bentler, 1999).

Resources do, in fact, predict academic and leisure approach goals that themselves induce high subjective-well being. The two models fit the data well, for academic approach goals, χ^2 (25) = 45.53, p = .01; RMSEA = .05, CFI = .97, and for leisure approach goals, χ^2 (25) = 48.94, p = .00; RMSEA = .06, CFI = .96 (see Figure 1 and Figure 2, respectively).

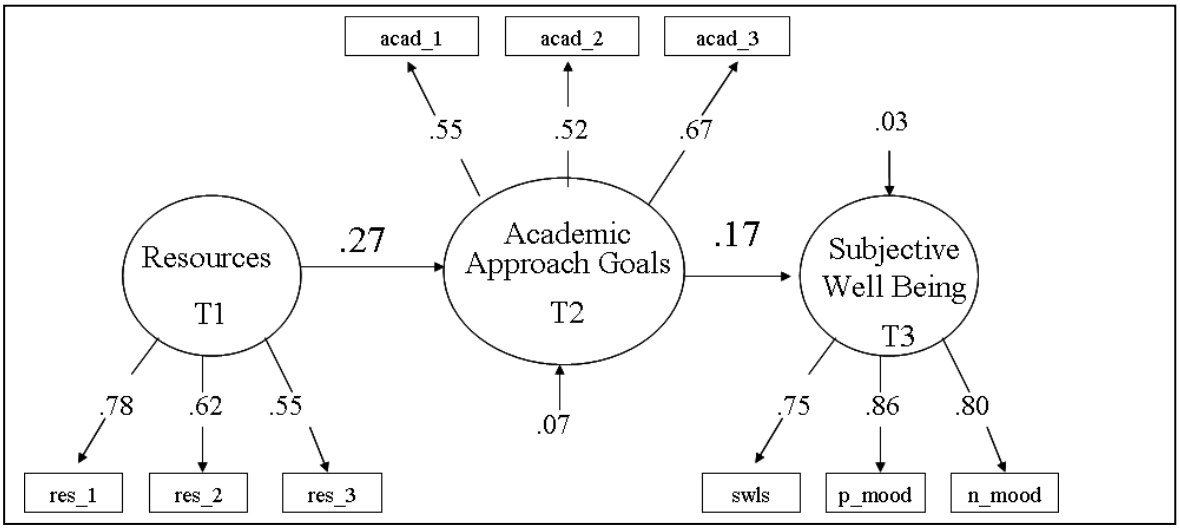

Figure 1 The Structural Equation Model for Academic Approach Goals (Study 1)

As presented in Figure 1, the results show that the amount of resources in the beginning of the semester had a direct positive effect on academic approach goals in the mid-semester (β = .27, p < .01). In addition, the pursuit of approach goals in academic life domain in mid-semester had a positive direct effect on subjective well-being at the end of the semester (β = .17, p < .01).

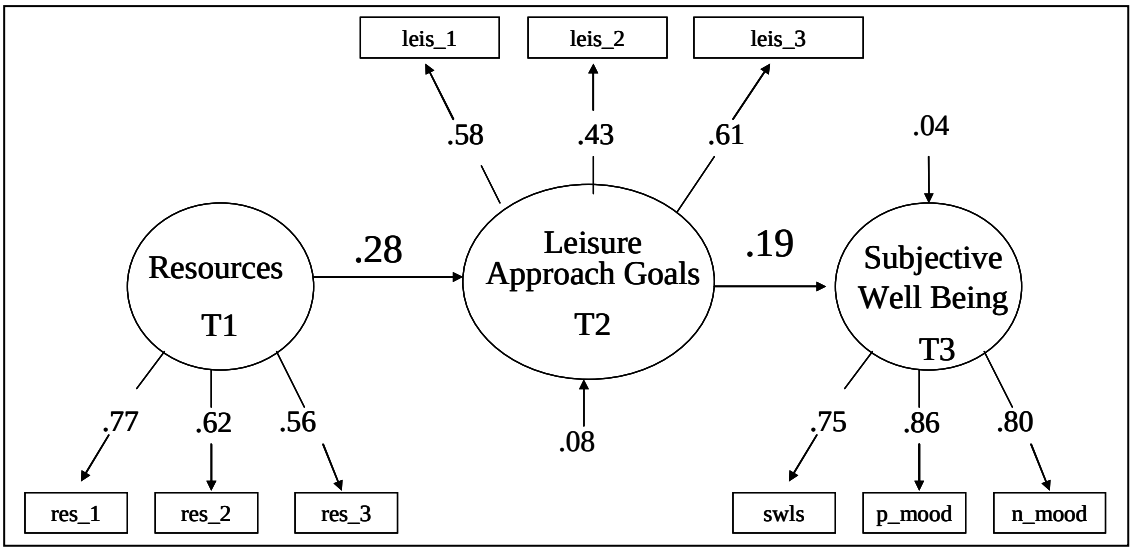

Figure 2 The Structural Equation Model for Leisure Approach Goals (Study 1)

Figure 2 presents the estimated parameters for the model referred to leisure approach goals. The amount of resources in the beginning of the semester significantly lead to the adoption of approach goals in the private life domain (β = .28, p < .01) in the mid-semester which in turn was positively associated with subjective well-being at the end of the first semester (β = .19, p < .01).

Brief Discussion

The results support our assumption that the amount of resources plays an important role in everyday adoption of personal approach goals in a student's life. Notably, resources at one point in time predicted approach goal adoption four weeks later. That is, students who rated themselves as having a strong amount of resources at the beginning of the semester strived for

more approach goals in the middle of the semester. More important, this effect was not only restricted to academic goals, but occurred also within leisure goals. Thus, the relationship of resources and approach goals could be demonstrated in two completely different life domains, varying in their degree of structure and self-determination. Since we computed an index based on the proportion of approach goals in ratio to the total amount of selected goals, one cannot ascribe this effect to a goal effect per se, for example that those students who perceived more resources generally strive for more goals.

In line with the findings of other researchers (e.g., Elliot et al., 1997) we could demonstrate that approach goals are associated with a more positive affective rating and cognitive judgement of well being. In general, participants who reported a large amount of approach goals in the middle of the semester indicated stronger subjective well being four weeks later. Both academic and leisure approach goals could predict subjective well-being.

However, the findings of the study are limited by three crucial factors. First, we solely asked freshman students in psychology. The sample of the study is therefore relatively homogeneous and only allows generalizing the results to a limited extent. Second, the relationship between resources and approach goals was only predicted for a time delay of four weeks. To gather stronger support for our assumption, this relationship should be studied within a longer time period. Third, as consequences from the adoption of approach goals we exclusively focused on ratings of well-being. It would be preferable to also have a judgement of goal-striving in terms of goal progress.

Study 2

In the second study, we measured a more heterogeneous sample and examined a longer time period for the prediction of approach goals than in Study 1. Additionally, we collected resources and academic and leisure approach goal orientation on every testing period which enabled us to predict the change of approach goals over the time course of the semester.

Method

Participants and Procedure

Ninety-six students from different faculties at the University of Zurich and the Swiss Federal Institute of Technology participated in the first period of the study. The study was described to them as a one-semester research-project examining their goals in academic and private life domain. A total of fifty-eight freshman students (42 women and 16 men) participated voluntarily over a time period of five months. Participants who drop-out during the test period did not differ from those students who participated in the whole study. The average age was 20.68 years (*SD* = 2.54). None of the participants was enrolled in psychology.

In the first session of the study 350 paper-pencil questionnaires were administered in various lectures. Ninety-six surveys (T1), containing the email address of the participants, were resent to the research lab (response rate = 27.4 %). T2 und T3 periods were web-based questionnaires that were announced via email. The participants were remunerated with the participation in a lottery drawing with book-vouchers amounting to 100, 50 and 30 Swiss Franc (approximately 90, 45 and 27 US Dollar). At the end of the study, students were thanked with a feedback displaying the purpose of the study and a summary of their individual results.

Longitudinal Design

Data were collected at three testing periods covering 19 weeks of a 5-month winter semester. The first period (T1) took place during the 6th week of the semester (in December). Subsequent testing periods took place four weeks later (T2 in January) and sixteen weeks later (T3 in April). We assessed resources and approach goals in both life domains on each of the three testing periods. The outcome-variables *satisfaction with life* and *goal progress* were assessed at the end of the study at T3.

Measures

Resources. In order to assess resources that represent changeable rather than invariant resources, we excluded those resources from our generated list which could be interpreted as stable resources, namely social skills and assertiveness. Additionally, we merged the two forms of external support, family support and support from close friends, to one resource labelled social support. The resulting list comprised seven resource items (time, self confident, self-discipline at work, energetic, social support, stress resistance*)* which were considered as important to the persistence of goal pursuit in the academic and private life domain. As in Study 1, participants compared themselves to an average student and indicated their amount of resources from 1 (*much below average*) to 7 (*much above average*). The mean reliability of resources was α = .55. Again, since the resources are very heterogeneous, we did not expect a higher internal consistency.

Approach versus Avoidance Personal Goals. For the approach versus avoidance personal goals in the two life domains, we used the same dichotomous forced-choice measure and the same instruction as in Study 1. However, the content of goals in academic and private life domain was somewhat adapted. Since we asked a less homogenous sample with different structural conditions of their studies, we formulated the goals more global. To amplify the variety of presented goals, we increased the number of presented goals in each life domain

from nine to eleven. As in Study 1, participants were asked to indicate for every goal of the presented academic or leisure goal whether or not they momentary were committed to it.

Satisfaction with Life. Cognitive judgements of well being consisted of the 5-item Satisfaction With Life Scale (Diener, Emmons, Larsen & Griffin, 1985) and participants rated their level of agreement with each statement (e. g. "I have been satisfied with my life") on a scale ranging form 1 (*no agreement*) to 7 (*very much agreement*). The reliability at T3 was Cronbach's α = .81.

Goal progress. At T3 we asked students about their progress on academic and leisure goals. As mentioned above, participants were asked to indicate those goals which they were not committed to. From this rating, we deduced the five most important academic and leisure goals. At T3 students were asked to rate on a 7-point scale (from 1 = *not at all* to 7 = *very good*) how well they implemented these goals during the first semester.

Results

Descriptive Statistics

The means, standard deviations and zero-order correlations of resources, approach goals, satisfaction with life and goal progress are reported in Table 2.

Resources Predicting Academic and Leisure Approach Goals

Given the considerably smaller sample size than in Study 1, we chose an appropriate way of analyzing the data. We ran several hierarchical regression analyses in order to test the relationship of resources and the change of approach goals. More specifically, to capture a longer time period than in Study 1, we analyzed whether the amount of resources at T1 predicted the criteria variables approach goal at T2 and T3, after first controlling for the autoregressive influences of approach goal at T1. Due to the fact that our hypothesis was directional, we will report the level of significance α for one-tailed testing

Table 2 Descriptive Statistics and Intercorrelations of All Variables (Study 2)

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. T1 Resources	4.28	.67	-										
2. T2 Resources	4.29	.69	.71**	-									
3. T3 Resources	4.25	.74	.66**	.68**	-								
4. T1 Academic Approach Goals	.68	.16	.38**	.29**	.09	-							
5. T2 Academic Approach Goals	.74	.17	.44**	.32*	.42**	.63**	-						
6. T3 Academic Approach Goals	.76	.18	.39**	.28*	.37**	.59**	.66**	-					
7. T1 Leisure Approach Goals	.71	.18	.28*	.19	.17	.46**	.49**	.48**	-				
8. T2 Leisure Approach Goals	.71	.21	.32*	.27*	.14	.42**	.49**	.48**	.57**	-			
9. T3 Leisure Approach Goals	.71	.20	.28*	.23	.30*	.43**	.48**	.67**	.38**	.54**	-		
10. T3 Satisfaction with Life	5.12	1.01	.57**	.46**	.43**	.21	.43**	.38**	.29*	.31*	.33*	-	
11. T3 Goal Progress, Academic Goals	4.77	1.12	.35**	.25	.41**	.26*	.33*	.28*	.27*	.26*	.24	.45**	-
12. T3 Goal Progress, Leisure Goals	4.74	.78	.47**	.47**	.41**	.19	.38*	.39**	.24	.42**	.25	.60**	.40*

Note. N = 57, T1 = time 1; T2 = time 2; T3 = time 3

* $p < .05$, ** $p < .01$

As shown in Table 3, resources at T1 significantly predicted academic approach goals at T2 (β = .24, p < .05) and at T3 (β = .20, p < .05). In both regression analyses, resources accounted for additional variance in the increase of approach goal adoption at T2 (ΔR^2 = .05) and at T3 (ΔR^2 = .03). Thus, the more students perceiving themselves having many resources in the beginning of the semester, the more they adopt academic approach goals 6 and 12 weeks later. Approach goal in the academic life domain thus may be affected by the amount of resources, but do resources have the same influence on leisure approach goals?

Table 3 Hierarchical Regression of Academic Approach Goals on Resources (Study 2)

Step	Variable entered	ΔR^2	F for increment	B	$SE\ B$	β
	DV: T2 Academic Approach Goals					
1	T1 Academic Approach Goals	.39	33.47**	.65	.11	.62**
2	T1 Resources	.05	4.72*	.06	.03	.24*
	DV: T3 Academic Approach Goals					
1	T1 Academic Approach Goals	.34	27.60**	.64	.12	.58**
2	T1 Resources	.03	2.87*	.05	.03	.20*

Note. N = 58 * p < .05. ** p < .01.

We again regressed the change of leisure approach goals at T2 and T3 by including the preceding leisure approach goal at T1 as a covariate on subsequent resources (see Table 4). We found a marginally significant effect for every testing period. Resources at T1 predicted leisure approach goals at T2 (β = .17, p =.07), and at T3 (β = .18, p = .08). For both leisure approach goal adoption at T2 and at T3, resources at T1 accounted for additional 3% of variance. To conclude, leisure approach goals seemed to be modestly affected by resources in a way that a strong amount of resources marginally predicts the augmentation of leisure

approach goals several weeks later. The relationship between resources and approach goals was stronger for academic goals.

Table 4 Hierarchical Regression of Leisure Approach Goals on Resources (Study 2)

Step	Variable entered	ΔR^2	*F* for increment	*B*	*SE B*	β
	DV: T2 Leisure Approach Goals					
1	T1 Leisure Approach Goals	.34	26.98***	.67	.13	.58**
2	T1 Resources	.03	2.29†	.06	.04	.17†
	DV: T3 Academic Approach Goals					
1	T1 Leisure Approach Goals	.15	9.22**	.42	.14	.38**
2	T1 Resources	.03	2.00†	.06	.04	.18†

Note. N = 58 †$p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$

The Relationship between Approach Goals and Outcome Variables (Satisfaction with Life and Goal Progress)

Both academic and leisure approach goals were hypothesized to relate to the judgement satisfaction with life and to the subjective goal progress during the first semester. To test the first assumption, we correlated academic approach goal at T1 and T2 with satisfaction of life at the end of the semester T3 (see Table 2). While academic approach goals at the beginning of the semester (T1) only marginally correlated ($r = .21$, $p = .12$) with life satisfaction, academic approach goals at T2 yielded a substantially high correlation with life satisfaction at T3 ($r = .43$, $p \leq .01$). On the other hand, leisure approach goals at T1 ($r = .29$, $p \leq .05$) and at T2 ($r = .31$, $p \leq .05$) both significantly correlated with satisfaction with life at the end of the semester at T3. Thus, the more approach goals were selected in both academic and leisure life

domain at the beginning and mid-semester, the more they reported to be happy with their life at the end of the semester.

To test the relationship of approach goals and goal progress, we correlated approach goal measures at T1 and T2 with ratings of goal progress at T3 (see Table 2). Goal progress of academic goals was positively correlated with academic approach goals at T1 ($r = .26$, $p \leq .05$) and T2 ($r = .33$, $p \leq .05$). This indicates that students who elected more academic approach goals stated that they successfully realised the academic goals over the course of the semester. Similarly, goal progress of leisure goals correlated with leisure approach goals at T1 ($r = .24$, $p = .07$) and T2 ($r = .42$, $p \leq .01$). Thus, approach goals in a specific life domain tend to foster the implementation rate of life domain congruent goals.

Brief Discussion

We could replicate the finding that participants who perceived themselves as having a large amount of resources subsequently strived for more approach goals. This effect was shown again for goals in the academic as well as for the leisure domain. Since we focused on a longer time period for the prediction of approach goals on resources, and due to the recruitment of a more heterogeneous subsample, we replicated the findings of Study 1 under more restrictive conditions. Additionally, we demonstrated that the adoption of both academic and leisure approach goals was associated with higher satisfaction of life. Finally, the rating of goal progress indicated that approach goal adoption was positively related to the realisation of goals. It is well known that the pursuit of approach goals, as opposed to avoidance goals, has a positive impact on goal progress (Elliot et al., 1997). Our findings add to this assumption.

All in all, we have convincing findings supporting the notion that the amount of resources may affect approach goal selection. Whereas Study 1 put emphasize on the chronological sequence of resources and approach goal adoption, Study 2 revealed that resources predicted

the change of approach goal selection several weeks later. To test the causal relationship in a more restricted manner, we conducted experiments where we systematically manipulated the availability of resources.

Study 3

With Study 3 we wanted to test the hypothesis that participants who were assigned to an experimental group with many resources consequently selected more approach goals than participants assigned to the few resources group. Participants read a scenario that described a fictitious student who started his study in a new city and who had with either many or few resources in this new life context. Participants were asked to take the perspective of this person and to choose between approach or avoidance goals as if they were the student. Thus, we conducted a simple one-factorial experiment where resources were manipulated as the independent variable and the selection of approach versus avoidance goals served as dependent variable.

Method

Participants and Procedure

Students of the same introductory course of Study 1 were invited to this study one month after the completion of Study 1. One hundred thirty-three students (100 women and 23 men, another 10 participants did not indicate their sex) took part in this study for an extra credit. The mean age was 23 years (SD = 6.90). Participants were randomly assigned to an experimental condition, 60 participants were assigned to the condition of many resources and 73 participants to the condition of few resources.

The questionnaire of this experimental scenario-study was distributed at the end of the course. Students were asked to work on it individually and to return the questionnaire one week later.

They were told that they were participating in a study that was ostensibly designed to measure their ability of perspective taking. Participants first received a short scenario text that described a student with either low or high resources. Then a goal selection was announced, asking participants to choose those goals which they thought the described student would strive for.

Materials

Experimental resources induction. In this induction we manipulated the resources which could be described as variable. That is, *family support, time for learning projects, actual self confidence, concentration, energetic, close friends* were either reported as temporarily existing or non-existing resources of a female student, aged at 21, studying psychology in the first semester at the University of Zurich. The participants were asked to read the text carefully and concentrate on the following questions: How does the person feel? What kind of thoughts are in her mind? The participants were also told that we will later ask some questions about the student in the scenario. The scenario text for the induction of low resources was written as follows:

> "Sybille, aged 21, started her psychology studies at the University of Zurich three months ago. She is convinced of her intentions concerning her studies. Unlike some of her colleagues she does not get financial support of her parents. Her parents hold the opinion that she needn't study because she would also be able to run the family business without a diploma. It took her a long time to find a place to live in a students' living community and only slowly managed to settle into Zurich. She therefore started a little late to learn for the upcoming exams. In addition to that it seems to her that the part time job doesn't leave her enough time to prepare well and thoroughly for the current lectures. At the moment she is unsure how she will master her studies. Right now she is not able to concentrate on the learning material. She is tired and feels burnt out. Her ability to concentrate is worse than before. She is often tempted to watch TV in order to relax and consequently fails to use her planned time schedules to learn. Sibylle has got close friends, who encourage her every now and then. Unfortunately most of them live in a different town."

The scenario text for the induction of high resources started with the same two sentences, but differed in the description of resource availability (e.g., her parents support her study plans, she has easily found a place to live etc.).

Approach versus Avoidance Goals. Then, participants had to fill out the same measure of academic approach versus avoidance goals as in Study 2. The task for the participants was to select those goals the fictitious student Sibylle would adopt regarding her momentary life situation. As dependent variable, we calculated the sum of selected approach goals, avoidance goals and the total sum of goals.

Identification with the scenario. At the end of the goal questionnaire we assessed participants' identification with the scenario with the following two questions (*"How similar is the described life situation of Sibylle to your own life situation?"* and *"How well could you imagine being in the situation described in the scenario yourself?"*) on a five-point-scale (1 = *not at all*, 5 = *very similar* respectively *very well*). The two items correlated significantly r = .35, $p \leq .001$, indicating that the more the situation resembles the student's own life situation, the better they could imagine being in the described situation.

Results

Preliminary Analysis

The two groups (many resources vs. few resources) were first compared regarding demographics and identification with the scenario. T-tests resulted in significant difference between the two groups: Participants in the few resources group indicated that the situation was less similar to their own situation (M = 1.49, SD = 1.19) compared to participants in the many resources group (M = 2.05, SD = .96; $t(131) = 2.98$, $p \leq .001$). Also, students in the few resources group stated that they were less able to imagine the situation (M = 2.79, SD = 1.19) than participants in the many resources group (M = 3.13, SD = .93; $t(131) = 2.25$, $p \leq .05$).

This indicates that the scenario of many resources resembled the students' own study-situation more and it was easier for them to imagine this scenario.

Summary Statistics of Approach versus Avoidance Goals

Since the number of avoidance goals results from the difference of the total number of goals and approach goals, Table 5 only displays means and standard deviations of selected approach goals and the total number of goals selected by the two groups.

Table 5 Descriptive Statistics of Selected Goals in the Experimental Conditions (Study 3)

Variables	Few Resources N = 73		Many Resources N = 60	
	M	*SD*	*M*	*SD*
Sum Approach Goals	3.85	1.86	8.25	2.41
Total Number of Goals	10.79	.64	10.68	.16

Note. N = 123

Testing Differences in Goal Adoption

To test our hypotheses, we computed several unifactorial (scenario: many resources vs. few resources) between-subjects ANCOVAs, with identification with the scenario as covariate. The first ANCOVA was conducted on the total sum of goals. The analysis revealed no effect of the covariates similarity (F = .13, p = .72) and ease of imagination (F = 1.70 , p = .19), and also no effect of scenario on total sum of goals (F = .30 , p =.59). Thus, the two groups did not differ in their chosen total amount of goals.

Next, an ANCOVA was conducted on the amount of selected approach goals. The analysis revealed, again, no effect of the covariates similarity (F = .26, p = .61) and ease of imagination (F = .55, p = .45), but did reveal an effect of scenario on the amount of selected

approach goals, $F(1, 122) = 125.54$, $p < .001$, $\eta^2 = .49$. The few resources group selected less approach goals ($M = 3.85$, $SD = 1.86$) than the many resources group ($M = 8.25$, $SD = 2.41$).

A final ANCOVA was conducted on the amount of selected avoidance goals. The analysis revealed, again, no effect of the covariates similarity ($F = .12$, $p = 72$) and ease of imagination ($F = 2.00$, $p = .16$), but did reveal an effect of scenario on the amount of selected avoidance goals, $F(1, 122) = 139.22$, $p < .001$, $\eta^2 = .51$. Participants in the few resources group selected more avoidance goals ($M = 6.95$, $SD = 1.96$) than those in the many resource group ($M = 2.43$, $SD = 2.25$), $t(131) = -12.36$, $p \leq .00$.

Brief Discussion

With this experiment we showed that the adoption of approach and avoidance goals differs as a function of the amount of resources. As predicted, participants in the few resource group selected more avoidance and less approach goals than participants in the many resource group. Therefore we assume that the amount of resources had a direct influence on approach and avoidance goals adoption.

It has to be noted that this study worked with a sub sample of participants of Study 1. But since all participants of Study 1 received a debriefing only after the completion of Study 3, participants did not know the purpose of the study. Furthermore, all participants were randomly assigned to one experimental condition. The choice of approach or avoidance goals can therefore be interpreted as a reaction of the resource manipulation.

Nonetheless, it could be criticized that resource manipulation was made rather indirectly. Participants were not actually confronted with the availability of many or few resources but asked to take the perspective as if they had many or few resources. With respect to individual imaginations skills and even with respect to distinct authenticity of the described situations, we cannot exclude other confounding variables.

In addition, all previous studies focused on the concept of personal goals during daily life and contributed to the existing finding of resource influence in goal orientation during the whole life span (Ebner et al., 2006). A further replication within another level of goal representation (Elliot & Sheldon, 1998) would give the breeding ground for the generalizability of this effect. Taking these limitations into consideration, we carried out a fourth study designed as an online-experiment with approach and avoidance motivation on task goals.

Study 4

In Study 4 participants were instructed to work on cognitive ability tasks. The methods of Study 4 varied from the methods of the previous studies in two essential points. First, resources were induced as the *actual* available time participants possessed to work on these tasks. Second, we assessed approach-avoidance motivation on task goals, rather than personal goals, immediately before participants started to solve the analogies. Additionally, to gather first evidence in the theoretical postulated mechanism between resources and approach goals, outcome expectancy was assessed as a mediating variable. We assumed that low availability of resources might decrease the outcome expectancy of the task at hand. Consequently, low outcome expectancy might result in a preference for avoidance goals.

Method

Participants

A total of 2324 students from different faculties of the Swiss Federal Institute of Technology in Zurich participated in this online-web experiment. Approximately 45% of them were excluded from the sample because they either did not fill out the complete questionnaire or because the log file suggested that they did not work on the experiment in consecutive order.

The data of 1287 student (422 women and 819 men) were considered in this online-experiment. The mean age was 22 years (*SD* = 5.04).

Procedure

An invitation email including the link to the online-experiment was sent to a distribution list of students. Participants worked on two different problem-sets of logical reasoning (figural or verbal analogies). The amount of resources, that is the time slot to work on the problem-set was manipulated as independent variable. The approach versus avoidance task goal which participants had to indicate before they worked on the problem served as the dependent variable. All participants were randomly assigned to three different groups of this 2 (task: figural analogies vs. verbal analogies) x 3 (resources: 10 sec vs. 35 sec vs. 60 sec) incomplete within-design. In one experimental group participants worked on the figural analogy task in ten seconds and on the verbal analogy-task for 60 seconds and in another experimental group participants worked on the figural analogy task for 60 seconds and on the verbal analogy-task for 10 seconds. So as to control for order effects, the chronological sequence of the task was counter-balanced within these two experimental groups. A control group contained participants that worked on both problem-sets in 35 seconds.

On the starting page the experiment was announced as a study concerning students' performance on logical reasoning. After that, the first problem-set (either figural or verbal analogies) was introduced and it was indicated how much time they had to solve the task (either 10, 35 or 60 seconds). Students run a test-session where they solved the task within the corresponding time slot. In the right corner of the screen, a digital watch indicated the remaining time. After completing the test run, participants reported their outcome expectancy concerning the task and indicated their momentary task goal for their performance in that task. Then, they solved six analogy-tasks, each within the manipulated time slot. Again the remaining time was indicated with a digital watch in the right corner of the screen. After

completing the first problem set (either figural or verbal), the second problem-set (either verbal or figural) combined with another time slot as resource manipulation started. Participants were informed that the time varied because of the different problem-sets. The experimental sequence within the second problem-set was the same as the sequence in the first problem set. After participants completed the second problem-set the experiment closed with a short debriefing of the study, with a link to the correct solutions of the problem-sets and with general positive achievement feedback.

Measures

Resources Manipulation. Resources were operationalized as the time allocated to participants to solve the analogy tasks. Pre-tests showed that participants (N = 26, 19 men and 7 women) worked on average 22.67 seconds (*SD* = 14.67) on the analogy-task to solve it correctly. The minimum time was 6 seconds, whereas the maximum time was 70.5 seconds. The available time slot varied as a function of resource manipulation and taken the pre-test results into account we decided that the available time would be 10 seconds for few resources, 60 seconds for many resources and 35 seconds for the control group.

Approach versus Avoidance Task Goals. We asked for two relevant task goals, that is *completeness* and *outcome*. As in the previous studies, approach and avoidance goals were displayed as forced-choice item with two distinct phrases of the same goal (e.g., the approach goal phrasing for the goal *outcome* was “I want to achieve a good result.” and the avoidance goal phrasing “I want to avoid a bad result”). Participants had to decide which goal phrasing they prefer while working on the following task. The choice of approach and avoidance task-goal was coded dichotomously, with avoidance goals = 0 and approach goal = 1. A total-sum index served as dependent variable, ranging from 0 to 2, with a high index indicating a stronger approach task goal adoption.

Outcome Expectancy. Outcome expectancy was assessed with three self-constructed items concerning the general competence to solve analogy-tasks ("*How well do you think is your ability to work on figural (or verbal) analogy?*"), the feasibility to solve the analogy within the given time ("*How possible will it be, that you solve all six task-analogies correctly, when you have a time slot of 10 (or 35 or 60) seconds to work on the task?"*) and the difficulty of the pre-test-task ("How *difficult has the test-task been for you?*"). Participants answered each item on a 7-point scale with 1 indicating a low outcome expectancy and 7 indicating a high outcome expectancy. The reliability of all three items was Cronbach's α = .73 for the figural analogies and Cronbach's α = .80 for the verbal analogies.

Manipulation Check. After the pre-test task, we asked the participants how adequate the time slot has been perceived to solve the task. Participants answered on a bipolar scale ranging from – 3 (= to short time slot) to + 3 (= to long time slot), whereas 0 represents an ideal time slot.

Task. The problem-sets were taken from an online-published web-assessment of cognitive competence from a consulting- and research enterprise (PSYREON, Psychological Research Online, http://www.psyreon.de/content/index_ger.html, Retrieved January 29, 2008) that provides online-based diagnostic solutions.

Results

Descriptive Statistics

Table 6 displays the means and standard deviations of the adequacy of time ratings, amount of approach goals and outcome expectancy for the two different problem-sets.

Table 6 Means and Standard Deviations of Central Variables in the Experimental Conditions (Study 4)

Variables	Figural Analogies			Verbal Analogies		
	10 sec	35 sec	60 sec	10 sec	35 sec	60 sec
Adequacy of time	-1.63 (1.02)	-.13 (1.13)	.52 (1.09)	-1.35 (1.61)	.55 (1.19)	1.23 (1.29)
Sum Approach Task Goals	1.55 (.67)	1.69 (.61)	1.72 (.56)	1.62 (.64)	1.76 (.52)	1.81 (.46)
Outcome Expectancy	3.82 (1.25)	4.35 (1.21)	4.72 (1.22)	4.44 (1.29)	5.42 (.97)	5.64 (.94)

Note. N = 1284.

Adequacy of Time as Manipulation Check

In order to test the resource-manipulation, we analyzed whether the ratings of time slot adequacy varied between the different resources manipulations. There was a significant effect of resource manipulation within the figural analogies, $F(2, 1284) = 439.36$, $p < .001$, $\eta^2 = .64$. Planned comparisons revealed that participants in the 10 seconds condition rated the time slot less adequate than in the 35 seconds condition, $t(1284) = 20.50$, $p < .001$, $r = .49$, and in the 60 seconds condition, $t(1284) = 28.21$, $p < .001$, $r = .62$. Participants in the 35 seconds condition rated the time slot less adequate than participants in the 60 seconds condition $t(1284) = - 8.70$, $p < .001$, $r = .24$.

We also found a significant effect of resource manipulation within the verbal analogies, $F(2, 1284) = 527.93$, $p < .001$, $\eta^2 = .67$. Planned comparisons revealed that participants in the 10 seconds condition rated the time slot less adequate than in the 35 seconds condition, $t(1284) = 23.29$, $p < .001$, $r = .55$, and in the 60 seconds condition, $t(1284) = 31.37$, $p < .001$, $r = .66$. Participants in the 35 seconds condition rated the time slot less adequate than participants in the 60 seconds condition $t(1284) = - 8.41$, $p < .001$, $r = .23$.

The results clearly indicate that in both analogy-tasks the manipulation of the time slot successfully induced the perception of low, moderate and high availability of resources for the task.

Testing the Differences in Approach versus Avoidance Task Goal Adoption

For the figural analogies, a unifactorial (resources: 10 seconds vs. 35 seconds vs. 60 seconds) between-subjects one-way ANOVA was conducted on approach versus avoidance task goals within the figural analogies. The analysis revealed a significant effect of resources, $F(2, 1284) = 9.45$, $p < .001$, $\eta^2 = .12$. To test our specific hypotheses, we ran several planned comparisons, revealing that participants in the 10 seconds-condition adopted less approach task goals than participants in the 35 seconds-condition, $t(855) = 3.20$, $p < .01$, $r = .11$, and

participants in the 60-seconds-condition, $t(825) = 4.09$, $p < .001$, $r = .14$. Participants in the 35 seconds- and in the 60 seconds-condition displayed a comparable amount of approach task goal adoption, $t = -.89$, $p = .37$.

For the verbal analogies, the unifactorial between-subjects one-way ANOVA revealed a resource effect on approach versus avoidance task goals, $F(2, 1284) = 13.98$, $p < .001$, $\eta^2 = .15$. Planned comparisons indicated that participants in the 10 seconds-condition adopted less approach task goals than participants in the 35 seconds-condition, $t(801) = 3.47$, $p \leq .01$, $r = .12$, and participants in the 60-seconds-condition, $t(760) = 5.00$, $p < .001$, $r = .18$. Participants in the 35 seconds- and in the 60 seconds-condition displayed a comparable amount of approach task goal adoption, $t = -1.67$, $p = .10$.

To summarize, respectably few resources (i.e., not having enough time to work on the task) induced a priority for avoidance goals, such as “I don’t want to give false answers” or “I want to avoid a bad result”.

Testing the Mediating Effect of Outcome Expectancy

Outcome expectancy was tested to mediate the relationship between resources and approach versus avoidance task goals. For both problem-sets linear regression analyses were computed to determine the relationship between resources and outcome expectancy, outcome expectancy and amount of approach task goals as well as resources and approach task goals. Second, we regressed approach task goals on both the predictor amount of resources and the mediator variable outcome expectancy (Baron & Kenny, 1986).

Within the figural analogies, the amount of resources positively predicted outcome expectancy ($\beta = .28$, $p < .001$), and outcome expectancy positively predicted the adoption of approach task goals ($\beta = .25$, $p < .001$). Simple regression analysis showed that the amount of resources positively predicted the adoption of approach task goals ($\beta = .11$, $p < .001$), but when outcome expectancy was held constant in a multiple regression, the relationship

between resources and approach task goals was no longer significant (β = .05, *ns*). The Sobel (1982) test was statistically significant (z = 6.39, $p < .000$), supporting the hypothesis of a full mediation of the relationship between resources and outcome expectancy.

Within the verbal analogies, we could replicate this mediation effect. Resources positively predicted outcome expectancy (β = .41, p < .001), whereas outcome expectancy was positive associated with the adoption of approach task goals (β = .28, p < .001). Again, simple regression analysis revealed that the amount of resources positively predicted the adoption of approach task goals (β = .14, p < .001), but when outcome expectancy was held constant, the relationship between resources and approach task goals was no longer significant (β = .03, *ns*), Sobel's z = 9.87, p < .000.

To summarize, outcome expectancy fully mediated the relationship between resources and the adoption of approach task goals. We replicated this effect for both problem-sets, showing that resources did not directly affect the adoption of approach versus avoidance task goals, but rather influenced individual outcome expectancies which in turn induced the adoption of approach and avoidance task goals.

Brief Discussion

Study 4 again supports our hypothesis that resources do have an influence on the adoption of approach and avoidance goals. Specifically, we could once more replicate the intriguing finding that the adoption of approach and avoidance goals is sensitive to the availability of resources. More precisely, participants selected avoidance task goals if they had only few resources to work on that task. In this study, we effectively induced the *actual* amount of resources which enabled us to control the perception of resources rather then just rely on subjective ratings of resource perception.

While our previous studies focused on the effect of resources on personal goals during a time period of three to five months, this study worked with a smaller level of goal

representation focussing on “task-specific guidelines for performance” (Elliot & Sheldon, 1998, p. 171) with a maximum duration of six minutes. Thus, with this experimental design we narrowed findings in the perspective of life-span development (Ebner et al., 2006).

Additionally, we received first evidence that the link between resources and approach versus avoidance goals is mediated through outcome expectancy. When participants solely had few resources to solve the announced problem-set, they consequently only had small outcome expectancy in doing well in this task. Therefore, assumedly having little chance to attain the performance goal, participants focussed on the negative valence in goal adoption, thus “I want to avoid a bad result”.

General Discussion

The present studies investigated whether the amount of personal resources is related to the adoption of approach and avoidance personal goals as well as specific task goals. We further attempted to replicate existing findings with associated consequences of approach and avoidance goals by assessing psychological well-being and goal progress as outcome variables. Reflecting the natural occurring students' need to strive for both academic and leisure goals at the same time, we broadened the perspective to approach and avoidance goals into the private life domain of leisure-related concerns.

Resources as Antecedents of Approach and Avoidance Goals

Research on antecedents of approach versus avoidance personal goals in the achievement motivation domain has so far focused on dispositional factors (Elliot & Church, 1997; Elliot & Thrash, 2002; Higgins & Spiegel, 2004). In these studies, approach or avoidance goals are conceptualized as a stable construct, differentiating individuals as more approach goal oriented or, on the other side, as more avoidance goal oriented. Recently, however researchers became interested the individual change of approach and avoidance goal adoption (e.g., Fryer & Elliot, 2007), assuming that the adoption of approach and avoidance goals is not only a stable motivational preference, but also reflects a dynamic strategy of self-regulation. Goal striving comprises the evaluation of goal progress and several factors may prompt goal revisions (Wrosch et al., 2003). On the basis of research in life span development, one such factor is assumed to lie in the amount of available resources people need to pursuit their goals (Ebner et al, 2006).

The results of our longitudinal field- and experimental studies provide strong support for the hypothesized assertions. That is, the more resources a person possesses, the more

approach goals she subsequently adopts. Contrary, the lesser resources she assumes to have, the more she will avoid the negative end-state she focuses on.

If, for example, a person has the feeling of having enough time, if she can concentrate on the task, is alert and is supported by important others, she subsequently might expect that everything she does will support the attainment of the goal. This strong outcome expectancy might drive the attention to a mental representation of success and hence, will lead to a goal focus on positive events and outcomes, namely approach goals. If, in contrast, the person has the feeling of lacking time, if she cannot concentrate on the task, is tired and has little support from important others, she might expect that the activities she engages in will not help to attain her goals. This low outcome expectancy, in turn, might channel the regard to a mental representation of failure and, accordingly, will lead to a goal focus on negative events (i.e. avoidance goals).

Following these assumptions, we have first evidence that outcome expectancy indeed operates as underlying mechanism of the relationship between resources and approach versus avoidance goals. Study 4 clearly demonstrated that outcome expectancy mediated the relationship between resources and approach versus avoidance task goals. People with few resources reported lower outcome expectancy and adopted more avoidance goals. Further research should look in more detail if outcome expectancy can be linked to a mental representation of success or failure.

In the context of life span psychology, Ebner and her colleagues (2006) already demonstrated that young versus old adults differing in their amount of resources also differ in their preference for goal orientation. With our studies, we complement this young research field. We demonstrate that individual resource perception is a factor that effects approach and avoidance goal adoption not only during ontogenetic development, but also during the daily pursuit of personal goals and the pursuit of specific task goals.

Moreover, we contribute to the notion of approach and avoidance goals as dynamic self-regulation strategy that change according to external circumstances. Senko and Harackiewicz (2005) successfully specified competence feedback as such external circumstances. With our studies we add another specification, namely individual resource perception.

Difficulty level of avoidance goals. Nonetheless, it remains unclear which functional advantages might be related with the selection of avoidance goals in the face of few resources and outcome expectancies. A study addressing the question of learning goal implications on performance showed that avoidance goals were substantially associated with a low goal level (VandeValle, Cron & Slocum, 2001). Hence, we assume that avoidance goals incorporate goals with lower aspirations levels. It is reasonable that people lower their aspiration level in the face of few resources which might be reflected in a preference for avoidance goals. Future research should address this possible explanation.

Taken together, the adoption of approach or avoidance goals is affected by the amount of resources which is not only present throughout personal life-span development but as well throughout the daily and task-specific pursuit of self-relevant goals.

Consequences of Approach and Avoidance Goals

When considering the investigated outcome variables of the present study, we managed to replicate existing findings (Elliot et al., 1997) that approach and avoidance goals predicted psychological well-being and goal pursuit. That is, the more approach goals one strives for, the more progress is made in realising these goals. This also leads to stronger reported subjective well-being and life satisfaction.

Functionality of avoidance goals for well-being. At this point, one could argue that the adoption of avoidance goals in the presence of a low amount of resources could be adaptive and therefore should be correlated with increased well-being. Ebner and her colleagues (2006) showed that the adoption of prevention of loss respectively maintenance goals in older adults

was linked to more satisfaction with goal striving. But expectations of the adaptivity of avoidance goals in our studies are ambiguous. Following the SOC-model (Baltes & Baltes, 1990) successfully selecting approach or avoidance goals with respect to resources is one of the most central tasks of successful goal management during life-span development and avoidance goal adoption in the presence of few resources could therefore be beneficial for psychological well-being (Ebner et al., 2006). But the lack of resources during young adulthood is not socially or biologically determined as it might be the case in older adulthood. The aim should much more be to recover from this situation and to allocate as much resources as possible needed for goal striving. Therefore, the selection of avoidance goals in the presence of few resources is not expected to have a beneficial effect on psychological well-being.

Extended Focus on Approach and Avoidance Leisure Goals

To date, empirical investigation of leisure approach and avoidance goals compared with the academic approach and avoidance goals in achievement settings has not obtained much attention. With our studies we addressed the dialectic perspective of academic- and leisure-related goals. We reflected the natural occurrence of goal striving in both life domains.

The focus on leisure approach goals extends existing work on approach and avoidance goals exclusively focussing on academic-related approach goals. For one thing, leisure approach goals compared to academic approach goals was also affected by the preceding resource perception, in that a strong amount of resources predicted an increase of leisure approach goals. That means, perceiving oneself momentary as having support from important others, enough time and being concentrated predicts having a positive focus during goal striving (e.g., trying to be fit, instead of avoiding being ill). For another thing, striving for approach goals in the leisure-life domain is equally associated with psychological well-being and goal progress. A person “trying to stay in contact with his old friends” will be more

successful in realising this goal and will report stronger well-being than a person who "avoids losing contact with his old friends". Therefore, the antecedent and consequences investigated in this research are not limited to the academic life domain, but are generalizable to the private life domain.

Limitations and Future Directions

However, there are some limitations of the presented research. First, we only asked students to participate in our studies. Insofar it is disputable to what degree our findings can be generalized. Furthermore, participants of the longitudinal field studies rated their amount of resources only by self-report measures. Since assessment of goal adoption was also based on self-rating, the link between resources and goal adoption could be influenced by common method variance. Future projects should consider the option of objective data collection, as Diener and Fujita (1995) applied in their research when they supplemented self-ratings of resources with peer-ratings.

Practical Implication

From an applied perspective the findings of the present study illuminate a possible additional factor for the reason why individuals commit themselves to avoidance goals. In clinical setting, for example, resource allocation of patients should be examined carefully. It is likely that patients momentary perceive themselves as having few resources. The model of conservation of resources (Hobfoll, 1989) posits that all individuals strive to retain, protect and build resources and that the potential or actual loss of resources is perceived as psychological stress. He argues that people with a lack of resources tend to take a defensive position in order to protect their resources. We argue that the adoption of avoidance goals as opposed to approach goals reflect such a defensive strategy and that, if the lack of resources objectively is the case, interventions should comprise some resource-managing techniques

like setting clear goals, prioritizing objects, scheduling tasks etc. This possibly could help to accumulate resources so that the patients' focus can be directed on positive end-states.

Conclusions

To conclude, the amount of personal resources is one possible condition under which the adoption of approach and avoidance goal switches. Both longitudinal field studies and experiments repeatedly demonstrated that approach goals are preferred when individuals perceive themselves as having a strong amount of resources. Once a decline in resources is noticed, they commit themselves more to avoidance goals. This contiguity was found for personal goals in different life domains, namely academic life domain as well as leisure-related private life domain, and for specific task goals. With the focus on antecedents and consequences on approach and avoidance leisure-related goals, we underpinned the generalizibility of our findings to personal goals in very distinct life contexts.

Part II

Personal Goal Conflict between Work and Private Life Domains:

Motivational Antecedents and Consequences

Abstract

The present research investigated antecedents and consequences of conflict between personal goals within work and private life domains. Avoidance goal striving and affective self-control are studied as motivational antecedents of goal conflict, and performance and well-being are explored as resulting consequences. Two longitudinal studies with students (Study 1 and 2) and one scenario study with employees (Study 3) were carried out. Study 1 demonstrated that avoidance goal striving positively predicted goal conflict, which, in turn, was related to performance impairment and a decline in well-being. Study 2 replicated the findings of the positive relationship between avoidance goal striving and goal conflict. In addition, affective self-control was also positively related to goal conflict. This relationship was partially mediated by avoidance goal striving. With Study 3 we provide evidence that performance impairment could be due to an annoyance of adequate decision-making with regard to the goals in question. The findings are discussed in relation to self-regulation within multiple goal striving.

Introduction

People regularly strive for multiple simultaneously. They pursue personal goals but also strive for goals assigned by others (e.g., employers, teachers, parents). This makes everyday life like a juggling act between studying, working, making time to be with family and friends, deepening a relationship, taking time off, and exercising. Goal striving is at the core of motivational research seeking to explain the direction, the persistence and the intensity of goal-related behavior. Hence, motivational psychology focuses on motivational processes of goal selection and volitional processes of self-regulation (Heckhausen & Heckhausen, 2006; Kuhl, 2006; Oettingen & Gollwitzer, 2004; Rheinberg, 2006). With regard to successful self-regulation, multiple goal pursuit requires a dynamic balance between opposing demands for personal resources, such as time, energy and attention (Lewin, 1938; Louro, Pieters & Zeelenberg, 2007; Schmidt & DeShon, 2007). However, according to the scarcity hypothesis (Chapman, Ingersoll-Dayton & Neal, 1994), individuals have limited resources and the challenge in multiple goal pursuit is that several goals compete for people's limited resources. Allocations to one goal are at the expense of others, thereby resulting in goal conflict (Kruglanski et al., 2002).

Goal conflicts resulting from multiple goal striving have rarely been subject of systematic analyses in motivation psychology. To date, approaches in motivation psychology mostly focussed on a single-goal construct to investigate processes of goal pursuit. Classic approaches attempted to explain and predict single-goal selection, for example, on the basis of distinct motives (McClelland, 1985), on the relation between the intensity of motives and situational level of motivation (Atkinson, 1957) or by centring on the attributional style of individuals (Weiner et al., 1971). Contemporary approaches rather concentrate on self-regulatory issues, such as how to promote goal pursuit by developing deliberative or implemental mindsets (Gollwitzer, 1990), to successfully implement an intention (Gollwitzer,

1999; Gollwitzer & Brandstätter, 1997), formulate an assigned goal (Locke & Latham, 1990; 2002) or shield an important goal from distracting objects (Kuhl, 1983). Most approaches converge on the simplified notion of pursuing only one single goal and have neglected the systematic research of multiple goal striving (for exceptions see e.g., Emmons & King, 1988; Riediger & Freund, 2004). The pursuit of multiple goals appears to be the norm rather than the exception in everyday life (Dodge, Asher & Parkhurst, 1989) and resources of goal striving are limited, so there is a strong need for research on goal conflict.

Goal conflict can be defined as "a situation in which one goal striving is seen by an individual as interfering with the achievement of other strivings" in the individual's goal system (Emmons & King, 1988, p. 1041). For example, a project manager may not go swimming with his children on Friday afternoon, because he wants to get more financial support for his business project and therefore has to meet his supervisor instead. Goal conflict is most validly assessed on the basis of idiographic measures of personal goals (Emmons & King, 1988; Kehr, 2003; Riediger & Freund, 2004). Since the intergoal relation of different goals is not necessarily symmetrical, both influence-directions of potential conflicting goals (e.g., the influence of private goals on work goals, versus the influence of work goals on private goals) are captured (Riediger & Freund, 2004).

With our studies we will contribute to the investigation of goal conflict benefiting from the existing knowledge of self-regulation in goal striving. More precisely, the presented study is guided by three aims: first, we will link simultaneous avoidance goal striving, as opposed to approach goal striving, in different life domains to the perception of goal conflict. Second, individual self-regulatory competence, namely affective self-control, is put in relation to goal conflict. Third, performance impairment and a decline of subjective well-being are investigated as consequences of goal conflict. Before developing our hypothesis, we will present existing research on antecedents and consequences of goal conflict.

Antecedents of Goal Conflict

Only little research has been carried out so far on antecedents of goal conflict. Some studies point to individual differences that account for goal conflict. For instance, personality characteristics such as optimism (Segerstrom & Solberg Nes, 2006) and interdependent self-construal (Downie, Köstner, Horberg & Haga, 2006) tend to be positively correlated with goal conflict.

Another line of research links goal conflict with self-regulatory mechanism of goal striving. Three crucial findings of this research are: First, the amount of effort spent on goal striving was negatively related to goal conflict (Downie et al. 2006). That is, when individuals indicated that they were unable to put effort toward a goal they quoted more goal conflict. Second, the difficulty of life task was positively associated with subsequent statements of conflict (Cantor, Acker and Cook-Flannagan, 1992). Individuals stated that working on a life task engendered conflict with other goals from their life when this life task was challenging, perceived as difficult to reach and occupied the individuals' time thinking about that task. And finally, recent research focussed on self-determination (Deci & Ryan, 1985) as determinants of goal conflict. Self-determined motivation implies autonomous engagement in an activity or behavior (as opposed to controlled engagement). Senécal, Vallerand and Guay (2001) showed that conflict in two life domains is a result of low self-determined motivation within the two life domains. These findings suggest that the more individuals feel self-determined toward activities and behaviors performed in these two life domains, the less they experience conflict between them. The influence of self-determination on inter-domain conflict was replicated regarding conflict of work and family life domains of employees as well as academic and leisure life domains of students (Ratelle, Senécal, Vallerand & Provencher, 2005; Senécal, Julien & Guay, 2003).

We propose another prominent feature of goal striving that recently entailed a large body of research and that seems promising to analyze goal conflict. In our view, avoidance

goal striving (as opposed to approach goal striving) seems appropriate to predict goal conflict, since avoidance goals are associated with a series of affective and cognitive processes that could be linked to the perception of goal conflict.

Avoidance Goal Orientation and Goal Conflict

Approach versus avoidance goal orientation represents a structural goal-property that incorporates the valence of goals (Elliot, 1999; Higgins, 1997). In approach motivation, behavior is instigated or directed by a positive/desirable event or possibility (e.g., try to pass an exam), whereas in avoidance motivation, behavior is directed by a negative/undesirable event or possibility (e.g., try not to fail an exam; Elliot, 1999). Approach and avoidance goals are conceptualized as rather stable dispositions (e.g., Elliot & Thrash, 2002; Higgins & Spiege, 2004), but in recent times reports of individual temporal changes due to personal experience have captured attention (Ebner, Freund & Baltes, 2006; Fryer & Elliot, 2007; Payne, Youngcourt & Beaubien, 2007; Schnelle, Brandstätter & Knöpfel, in prep; Senko & Harackiewicz, 2005). These authors showed that the adoption of approach and avoidance goals is also related to external circumstances, such as resources or competence feedback.

With our consideration to link avoidance goal striving to goal conflict, we were influenced by early work of Kurt Lewin (1931) who connected positive and negative goal valence to conflicting situations. Lewin was concerned to explain behavior through situational and personal variables. To specify the situational variables he postulated in his “field theory” that environmental objects emanate positive or negative motivational valences that would determine peoples’ action. Grounded on this assumption he proposed a conflict typology and stated that “the decision between two desirable options should be usually easier than the decision between two undesirable options” (Lewin, 1931, p. 11). People therefore should perceive more conflict when they are in the face of two negative valence goals (corresponding

to two avoidance goals) than when standing between two goals of positive valence (corresponding to two approach goals).

Following Lewin's theoretical considerations we argue that striving to avoid negative events should be associated with enhanced perception of goal conflict than striving for positive events in different life domains. This assertion is further supported through another theoretical consideration, derived from findings on negative cognitive processes in avoidance goal striving (for a review, Elliot & Friedman, 2007; Werth & Förster, 2007). Avoidance goal striving was demonstrated to be associated with biased attentional and memorial processes, for instance a heightened sensitivity for negative information and a biased recall of negative information (e.g., Higgins & Tykocinski, 1992). The increased focus on negative cues accompanied with predominant avoidance goal orientation is related to a risk-averse and vigilant cognitive process-style which focuses on local perceptual details rather than global perceptual structure (Förster, Friedman, Özelsels & Denzler, 2006; Friedman & Förster, 2001). We suggest that this process-style might block mental resources that are necessary to organize the goals in question, possibly resulting in enhanced perception of goal conflict.

In order to illustrate the postulated processes, imagine a person who is situated in a very stirring life phase and who strives for the personal goals "not making a bad impression in an important business project" and "not neglecting contact to friends". Due to his avoidance goals he would immediately notice the complaint of friends for not spending time with them, or the friendly warning of the principal about leaving the office early (attentional processes). Alternatively, he may bring in mind the last weekend when he worked long hours on this important project instead of taking time for himself or going skiing with his friends (memorial processes). As a consequence he might ruminate about the causes and the specific wording of his principal's and friends' criticism and on what he might have missed out on last weekend, which prevents him from pondering possible ways of integrating his personal work and private goals.

These cognitive processes illustrate how the adoption of avoidance goals in different life domains can foster the perception goal conflict. More precisely, taking into account that avoidance goals may temporarily change (Fryer & Elliot, 2007), we hypothesize that *perseverance* in avoidance goal striving in different life domains is related to goal conflict. Linking avoidance goal striving to goal conflict highlights an aspect of self-regulation that could explain why some individuals constantly report goal conflict. This leads to our second aim of the present studies, the relationship of affective self-control and goal conflict.

Affective Self-control, Perseverance in Avoidance Goals and Goal Conflict

Our second aim is to explore whether affective self-control (Kuhl & Fuhrmann, 1998) is positively linked to goal conflict and whether this relationship could be mediated by perseverance in avoidance goals. Self-control is supposed to assist goal striving by fending off difficulties and hindrances during goal pursuit (Kuhl & Fuhrmann, 1998; Muraven, Tice & Baumeister, 1998). This sometimes requires the inhibition of self-relevant needs and is accomplished throughout cognitive or affective self-control mechanisms. Whereas cognitive self-control is performed with goal imagination and planning activities, affective self-control entails the regulation of upcoming negative affect through self-discipline and anxious self-motivation (Fröhlich & Kuhl, 2003).

Recently, Kuhl (2006, p. 313) posited that people high in self-control “achieve their best efficiency if they motivate themselves through negative cognitions and emotions”. Thus, we suppose that people with a strong inclination to affective self-control are most responsive to self-regulation strategies that also focus on negative events. An individual with high affective self-control is expected to show highly disciplined behavior. He would envision the negative effects if the task was not being carried out and would constantly pull himself together in order to finish what he started. Consequently, we assume that people who reprimand themselves through affective self-control show a high preference for avoidance goals. These

goals strongly reflect their focus on possible negative outcomes and therefore present an ideal form of their preferred self-management practice. Thus, we hypothesize that affective self-control should positively predict perseverance in avoidance goal adoption and, as a result, lead to goal conflict.

Consequences of Goal Conflict

Our third research aim concentrates on possible outcomes of goal conflict. To date, most research showed that conflict of personal goals had significant emotional costs. The results indicate that people who reported failing to combine their diverse goals also reported less positive affect, more negative affect and reduced physical health (Emmons & King, 1988; King, Richards, & Stemmerich, 1998; Riediger & Freund, 2004; Sheldon & Kasser, 1995).

Apart from findings of well-being only a handful of researchers were concerned about the implications on performance. In an interesting study with a sample of 247 university professors Locke and colleagues reported that conflict between the two work-related goals teaching versus research was negatively associated with research productivity assessed by the amount of publications (Locke, Smith, Erez, Chah & Schaffer, 1992). Additionally, Barling, Rogers and Kelloway (1995), who asked high school students about their conflict between school studies and part-time employment, referred to a negative relationship between conflict and school outcomes.

Since in research on personal values there is empirical evidence that both work and private leisure life domains are regarded as equally important (Inglehart & Baker, 2000; Oviada, 2003), one might wonder whether conflict between personal goals of work and private life domains might also relate to performance impairment. However, none of the previous studies was concerned about the relationship between conflict of work and private personal goals and performance impairment.

Additionally, none of the studies addressed the question of *how* goal conflict and performance could be intertwined. Managing diverse goals necessitates prioritizing and combining the conflicting goals (Schmidt & DeShon, 2007). This implies that one has to engage in different cognitive strategies, as for instance anticipate possible bottlenecks and problems of goal-relevant actions and then decide how to solve these problems. We assume that a goal conflict-related decline in performance could be attributable to the dysfunctionality of at least one of these strategies underlying the establishment of goal priority systems (Kernan & Lord, 1990).

In attempt to answer these limitations we will complete a field study that assesses conflict of academic and leisure personal goals and study performance in a longitudinal design. Additionally, we will assess two cognitive strategies, namely anticipating conflict-related problems and deciding on conflict-related problems, to gain insight how goal conflict might be related to performance impairment.

To summarize our hypotheses, we posit that perseverance in avoidance goal striving in different life domains positively predicts conflict of personal goals within these life domains. Additionally, affective self-control assessed as individual self-regulatory competence is also expected to be positively related to goal conflict, whereas the preference for avoidance goal striving is supposed to mediate this relationship. Finally, we assume that goal conflict affects performance impairment, whereas different cognitive strategies are explored to follow goal conflict perception. We also assessed different well-being facets in order to replicate existing findings.

The Present Studies

Figure 3 gives an overview about the central variables of the presented studies. The first study assessed antecedents as well as consequences of goal conflict in a longitudinal study covering five months. We asked first-semester students to report their academic avoidance goals, their perceived conflict from academic to leisure goals, their performance and well-being to gain first insight in our hypothesis.

Study 2 was again a longitudinal study covering one semester where we analyzed the *perseverance* in avoidance goal striving and affective self-control as motivational antecedents of goal conflicts in more detail.

Finally, in Study 3 we took a closer look at cognitive strategies involved in performance impairment due to the perception of goal conflict. For this purpose, a sample of employees completed an in-basket exercise taking the role of an employed family father. Participants' performance on that exercise was analysed along different cognitive strategies. Findings of the presented studies will extent our understanding of goal conflicts as they are for the first time related to issues of self-regulation in goal striving.

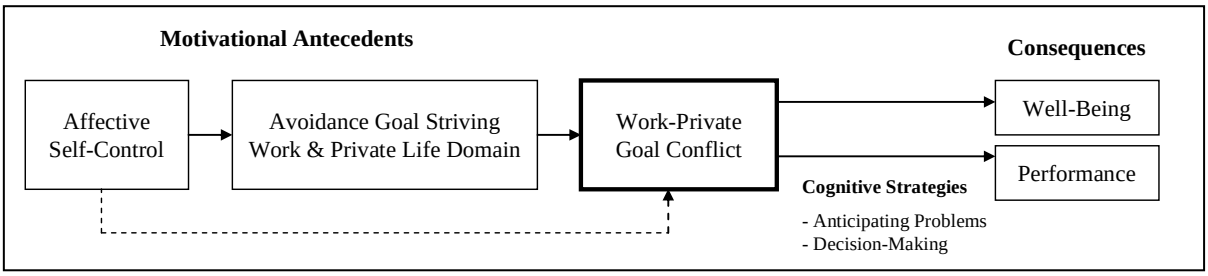

Figure 3 Overview about the Central Variables of the Present Studies

Study 1: Motivational Antecedents and Consequences of Personal Goal Conflict

Participants of this longitudinal study were students in the first semester. Since first-semester students devote a lot of time to their new academic environment, we assessed how their academic goals impaired their leisure goals, corresponding to the direction of academic-leisure goal conflict (Riediger & Freund, 2004). With this study, we attempted to establish first evidence that academic avoidance goals positively predict academic-leisure goal conflict, whereas academic-leisure goal conflict negatively predicts performance and well-being.

Method

Participants and Procedure

Ninety-six students enrolled in different faculties at the University of Zurich and the Swiss Federal Institute of Technology initially participated in the study. Fifty-seven participants (42 women and 15 men) remained in the sample covering two additional test periods over a time period of five months. The attrition rate came up to 40.6 %. No significant differences between students who participated only at the first testing period and students that took part in all testing periods were found. The mean age was 20.6 (*SD* = 2.54).

Data were collected at three testing periods of the winter term. The first period (T1) took place during the 6th week of the semester in December. Subsequent testing periods occurred eight weeks (T2, February) and sixteen weeks (T3, April) after initial participation.

Participants were recruited in various lectures. The study was announced as a one-semester research project concerning goals in academic and leisure life domain. Ninety-six surveys containing the email address of the participants were resent to the research lab. T2 und T3 testing periods were web-based questionnaires[4] which were announced via email. In every subsequent testing period, participants' personal study and leisure goals form the first

[4] We worked with the freeware PHP-online survey software that was able to link answers from one survey to another survey (http://psychmserver.unizh.ch/phpsurveyor/admin, Retrieved February 27, 2008).

testing period were linked to the questionnaire so that participants could easily remember their goals. The attendance of all three testing sessions contained a participation in a lottery drawing with book-vouchers amounting to 100, 50 and 30 Swiss Francs (approximately 90, 45 and 27 US Dollar). At the end of the study students were thanked with a feedback displaying the purpose of the study and a summary of their individual results.

Material

Personal Goals. At the first testing period (T1), students were asked to state two academic study goals and two personal leisure goals which they strived for during the first semester and which they currently judged to be important. The instruction included a brief explanation of the goal concept and encouraged them to start the phrasing of each goal with "I want to…" or "I do not want to…". Participants' examples of personal study and leisure goals are "I want to pass the final exam", "I don't want to study a topic in which I'm not really interested in", "I don't want to lose contact with my old friends", "I want to get to know the city of Zurich".

Academic-Leisure Goal Conflict. In every testing period students were instructed to pair their two academic goals with their two leisure goals and to respond to four items concerning their perceived goal conflict. These items were adopted from an existing measure to assess intergoal interference (Intergoal Relations Questionnaire, IRQ, Riediger & Freund, 2004) with regard to time constraints, energy constraints, financial constraints ("How often can it happen that, because of the pursuit of your study goals, you do not invest as much time/ energy/ money into your leisure goals as you would like to?") and with regard to incompatible goal attainment strategies ("How often can it happen that you do something in the pursuit of your study goals that is incompatible with your leisure goals"?). Response options ranged from 1 (*never*) to 5 (*very often*). Cronbach's α was .65 at T1, .68 at T2 and .70 at T3.

Avoidance Goals. In order to have a more valid measure we assessed avoidance goals at T2 after participants had acquired first experience with their new environment. Since the

adoption of approach and avoidance goals is predicted by task specific self-efficacy (Payne et al., 2007), a measure at T2 allowed for the necessary time to develop an initial representation of academic self-efficacy. We applied a newly developed method assessing the dynamic change of avoidance goals (see Schnelle, Brandstätter & Knöpfel (in prep.) for further details). Participants received a list of eleven study goals, derived from previous studies on students' personal goals for the first semester (Job & Brandstätter, in prep.). Each goal was labelled with a global title (e.g., "exam") and then presented in either approach (e.g., "I want to pass the exam") or avoidance (e.g., "I don't want to fail the exam.") goal phrasing. The approach and avoidance phrasings were displayed randomly at two end poles of a continuum. On this dichotomous forced choice scale participants were asked to indicate "their very momentary" goal pursuit, but they could omit those goals to which they did not feel committed. We calculated an index of avoidance goals by the amount of chosen avoidance goals relative to the total number of elected goals by the individual. A high index represents a high proportion of avoidance goals.

Performance. At T3, participants reported their grades on their winter term exams. Since we asked students from diverse faculties and not all students received a marked proof of performance within the first semester, we only received answers from 29 students. A high grade indicates better performance.

Positive and Negative Affect. Affect was measured in the first and second testing period with the 16-item instrument introduced by Brunstein, Lautenschläger, Nawroth, Pöhlmann and Schultheiss (1995) which already proved high reliability in other studies (e.g., Kehr, 2003). Positive affect was measured using an aggregated measure of the *elated mood* subscale (happy, joyful, pleased and confident) and *positive activation* subscale (energetic, active, cheery and vigorous). Negative affect was assessed using a composite measure of the *depressed mood* subscale (sad, depressed, distressed and dejected) and the *energy deficit* subscale (limp, unmotivated, sluggish and innert*)*. Participants specified the extent to which

they had felt these moods "during the past few days" (from 1 = *not at all* to 7 = *very frequently*). Reliabilities of the two mood scales were high at both testing periods (all *α*s >. 88).

Health. Physical symptoms were assessed in the first and second testing period by an adopted measure designed by Emmons (1992) that comprised the following symptoms: chest or heart pain; stomach ache, sickness or abdominal fullness; stiff or sore muscles, sacroiliac pain or pain in the limbs; faintness or dizziness; headaches; and insomnia. Participants indicated how often they had experienced each of the eight symptoms during the past 2 weeks on a 1 *(never)* to 5 *(several times in a week)* scale. A health index was created by averaging the eight items. Internal consistency were acceptable at both testing periods (*α*s >. 69).

Satisfaction with Studies. Study satisfaction was assessed on the first and second testing period with a 14-item measure (Westermann, Heise, Spies & Trautwein, 1996) that contained satisfaction with study content and with general framework of studies. An example item is "My studies cover topics I'm really interested in". Response options ranged from 1 *(= total disagreement*) to 9 *(= total agreement*). Reliabilities were high at both testing periods (*α*s >. 88).

Results

Descriptive Statistics

Table 7 displays means, standard deviations, minimum and maximum ranges of all variables of Study 1. The mean ratings of academic-goal conflict (M_{T1} = 3.01; M_{T2} = 2.95; M_{T3} = 2.96) illustrate that on average students report that their academic goals impede on their leisure goals. The proportion of academic avoidance goals ranged from 0 to .78 with a mean index of .28 (*SD* = .18). This indicates that on average 28 % of the adopted goals were in avoidance goal orientation which corresponds to existing findings of relative avoidance goal proportion (Elliot, Sheldon & Church, 1997).

Table 7 Descriptive Statistics of All Variables (Study 1)

Variables	*M*	*SD*	*Min*	*Max*
T1 Academic-Leisure Goal Conflict	3.01	.76	1.75	4.50
T2 Academic-Leisure Goal Conflict	2.95	.74	1.00	4.50
T3 Academic-Leisure Goal Conflict	2.96	.88	1.50	5.00
T2 Academic Avoidance Goals	.27	.18	.00	.78
T3 Grade	4.94[a]	.54[a]	3.50[a]	6.00[a]
T1 Positive Affect	5.19	.93	2.50	6.88
T2 Positive Affect	4.77	1.21	2.25	7.00
T1 Negative Affect	3.07	1.12	1.00	5.75
T2 Negative Affect	3.09	1.33	1.13	6.38
T1 Health	3.46	.92	1.33	5.00
T2 Health	3.47	.91	1.50	5.00
T1 Satisfaction with Studies	6.27	1.31	3.79	8.87
T2 Satisfaction with Studies	6.08	1.17	3.61	8.19

Note. N = 57. [a]N = 29.

Academic Avoidance Goals Predicting Academic-Leisure Goal Conflict

Campbell and Stanley (1966) proposed that stronger proof of the predicted effects can be made if the baseline levels of the outcome variables are controlled (see Brunstein, 1993). Therefore, to test our assumptions, we first controlled for the preceding measures of the criteria and afterwards, the predictors were entered into the regression equations.

We predicted academic-leisure goal conflict at T3 from previous academic avoidance goals at T2. When controlling for the autoregressive influence of academic-leisure goal conflict at T2, academic avoidance goals at T2 positively predicted academic-leisure goal conflict at T3 ($\beta = .22$, $p < .05$) and consequently accounted for additional explained variance on the increase of academic-leisure goal conflict ($\Delta R^2 = .04$). Thus, the more students strived

for avoidance goals in the academic life domain, the more they reported that their academic goals impaired their leisure goals (see Table 8).

Table 8 Hierarchical Regression of Academic-Leisure Goal Conflict at T3 (Study 1)

Step	Variable entered	ΔR^2	*F* for increment	*B*	*SE B*	β
1	T2 Academic-Leisure Goal Conflict	.49	52.37***	.82	.11	.66***
2	T2 Academic Avoidance Goals	.04	5.11*	1.03	.46	.22*

Note. N = 57; * p <.05. *** p <.001

Academic-Leisure Goal Conflict Predicting Performance, Well-Being and Satisfaction with Studies

Academic-leisure goal conflict at T1 was negatively correlated with study performance at T3 (r = -.40, p < .05), whereas the correlation between goal conflict at T2 and study performance at T3 reached no significance (r = -.10, p = .63). This clearly evidenced that especially those students who viewed their academic goals as harming their leisure goals in the beginning of the semester reported less academic success at the end of semester.

To investigate the relationship between academic-leisure goal conflict at the beginning of the semester (T1) and well-being measures at the end of the semester (T2), we computed hierarchical regressions that controlled for the autoregressive effects of baseline measures (see Table 9).

Academic-leisure goal conflict at T1 predicted positive affect at T2 negatively (β = -.21, p < .05). Thus, academic-goal conflict at the beginning of the semester is strongly related to a decrease in positive affect at the end of the semester. Additionally, academic-leisure goal conflict predicted negative affect at T2 positively (β = .20, p = .11), although the effect did not reach clear significance. That is, students who perceived their academic goals as impairing

their leisure goals subsequently reported to be more sad, depressed and distressed at the end of the semester. Furthermore, it was clearly evident that health ratings decreased at the end of the semester when participants indicated a strong amount of academic-leisure goal conflict eight weeks ago (β = -.23, p < .05).

Table 9 Hierarchical Regression of Well-Being and Satisfaction with Studies at T2 (Study 1)

Step	Variable entered	ΔR^2	F for increment	B	$SE\ B$	β
	DV: T2 Positive Affect					
1	T1 Positive Affect	.51	56.94***	.91	.12	.65***
2	T1 Academic-Leisure Goal Conflict	.04	4.51*	-.23	.15	-.21*
	DV: T2 Negative Affect					
1	T1 Negative Affect	.28	20.54***	.62	.14	.45***
2	T1 Academic-Leisure Goal Conflict	.03	2.71†	.24	.21	.20†
	DV: T2 Health					
1	T1 Health	.46	47.04***	.67	.10	.67***
2	T1 Academic-Leisure Goal Conflict	.05	4.98*	-.16	.11	-.23*
	DV: T2 Satisfaction with Studies					
1	T1 Satisfaction with Studies	.39	35.63***	.56	.09	.55***
2	T1 Academic-Leisure Goal Conflict	.08	6.70**	-.28	.15	-.27**

Note. N = 57; † p = .11. * p <.05. *** p <.001

Finally, the analyses evidenced a decline in study satisfaction at T2 when it was regressed on academic-leisure goal conflict at T1 (β = -.27, p < .01). This finding showed that hindrances

in the realisation of leisure goals that were evoked through the pursuit of academic goals came along with increased dissatisfaction with studies.

Brief Discussion

In this study we investigated avoidance goals as antecedent and performance and well-being as consequences of goal conflict on the basis of idiographic goals. Most importantly, we gained first evidence that avoidance goals are positively related to goal conflict. When students reported a large amount of avoidance goals in their academic life domain, they subsequently experienced more academic-leisure goal conflict. Notably, this was found for a time delay of eight weeks. For example, when an individual strives for not being excluded from fellow students, avoids failing the exam and tries to not having a pandemonium with his notes, this person will later report that his academic goals impede on his leisure goals. Since we computed an index based on the proportion of avoidance goals relative to the total amount of selected goals, one cannot ascribe this effect to the possible confounding variable of amount of goals per se, e.g., those students who selected more avoidance goals also selected more goals in general and as a result report more goal conflict.

With respect to the consequences we could demonstrate that the more students perceived academic-leisure goal conflict at the beginning of the semester the poorer they performed in their studies at the end of the semester. Even though we conducted a longitudinal design that considers one of the causality premises of chronological order, the data remain correlational. Since confounding variables could not be controlled we cannot assume causality of the findings.

Our results on the investigated well-being facets are in accordance with existing findings (Emmons & King, 1988; Riediger and Freund, 2004). Academic-leisure goal conflict was negatively related to positive affect and positively related to negative affect. Additionally, goal conflict was manifest in a decrease of health-ratings.

Finally, study satisfaction showed a considerable decrease at the end of the semester, when students were confronted with study goals that obstructed the pursuit of their personal leisure goals. To date, no results exist that relate academic-leisure goal conflict to ratings of satisfaction in regard to the life domain which the interfering goals derived from.

To summarize, the first study highlights that avoidance goals in the academic life domain predicted academic-leisure goal conflict and that, in turn, academic-leisure goal conflict was related to impairment of study performance and subsequent well-being. In Study 2 we sought to replicate our findings on motivational antecedents. Additionally, Study 2 was designed to test our assumption that affective self-control is related to perseverance of avoidance goals which in turn is related to goal conflict. Because affective self-control focuses on negative emotions and cognition, people high in affective self-control should constantly strive for avoidance goals which are assumed to mediate the association of affective self-control and goal conflict.

Study 2: Affective Self-Control as Antecedent of Personal Goal Conflict Mediated by the Perseverance in Avoidance Goals

The aim of Study 2 was to obtain further insight in the association of motivational antecedents and goal conflict. We again conducted a longitudinal study in the course of one semester, but Study 2 differed from Study 1 in the following points: First, we assessed individual self-regulatory competence (affective and cognitive self-control). Second, we were interested in the regulation of avoidance goals and the dynamic intertwine with goal conflict over the course of the semester, so we recruited a larger sample in order to draw analyses on extreme groups of avoidance goals. Third, to draw conclusion on a more complex basis, we included avoidance goal striving in both life domains and considered an aggregated measure of the two

possible directions of goal conflict, that is academic-leisure goal conflict and leisure-academic goal conflict.

Method

Participants and Procedure

A total of 283 (228 women and 55 men) undergraduates enrolled in an introduction course of psychology at the University of Zurich participated in this study. The mean age was 23.47 (*SD* = 6.58). The study was conducted at two testing periods six weeks after the beginning of the semester (T1 in December) and at the end of the semester (T2 in February). Fifty students did not participate at the second testing period (attrition rate = 15%). No significant differences were found between those who take part in both testing periods and those who just participated at the first testing period. Goal conflict and avoidance goals were assessed at T1 and T2, affective and cognitive self-control was measured at T2.

Measures

Personal Goals. All participants reported two important academic goals and two important leisure goals that were elicited throughout the same goal instruction as in Study 1.

Goal Conflict. We again assessed goal conflict between the two personal academic and the two personal leisure goals with the same questionnaire as in Study 1 (intergoal interference items of the IRQ, Riediger & Freund, 2004). Students rated at the beginning and at the end of the semester to what extent their academic goals impaired the realisation of their two leisure goals, and reversely how strong the pursuit of their leisure goals was debilitating their academic goals. We aggregated both academic-leisure goal conflict and leisure-academic goal conflict, to form an overall index of goal conflict. The reliability of the scale was acceptable with cronbach's α = .69 at T1 and cronbach's α = .71 at T2.

Avoidance Goals. We asked students about their avoidance goals in academic and leisure life domains. For this purpose, participants were presented eleven academic and eleven leisure goals which featured high importance in previous studies (Job & Brandstätter, in prep.). We used the same measure for academic avoidance goals as in Study 1. Leisure avoidance goals were assessed in the same dichotomous forced-choice format as the academic avoidance goals. Participants had to select avoidance or approach goal phrasings for every leisure goal. As in Study 1, we computed an index of the proportion of avoidance goals relative to the total amount of selected goals. Since the measure was dichotomous, the index could also be interpreted inversely as the relative amount of approach goal selection.

Mean ratings of the proportion of academic avoidance goals were .28 (*SD* = .18) at T1 and .27 (*SD* = .21) at T2. However, compared to the avoidance goal orientation in the academic domain, the proportion of leisure avoidance goals was lower with .22 (SD = 17) at T1 ($t(282)= 5.41$, $p < .001$) and .20 (*SD* = .18) at T2 ($t(282)= 5.72$, $p < .001$). This finding is consistent with the assumption that leisure goals are much more self-determined (Ratelle et al., 2005), and that high self-determination in turn was associated with more approach goal orientation (Elliot & McGregor, 2001). Yet, both measures were substantially correlated (T1: $r = .35$, $p < .001$; T2: $r = .47$, $p < .001$) so that we calculated on overall index of avoidance goals. A high value represents a strong overall avoidance goal orientation in both life domains.

Perseverance in Avoidance Goals. We calculated a perseverance index that illustrates the regulation of avoidance goals during the semester. We subtracted the overall avoidance goals at T2 from the overall avoidance goals at T1, focussing exclusively on participants with an overall avoidance goal orientation score within the top quartile (N = 70). A positive difference indicates that the person selected less avoidance goals at T2, no difference (0) indicated that the person still had the same amount of avoidance goals at T2, and a negative difference evidenced that the person selected more avoidance goals at T2 than at T1. We

recoded this difference variable to form a continuous variable of perseverance in avoidance goal that ranged from -.27 to .38 and an average value of .04 (*SD* = .14). A higher perseverance value displays stronger perseverance in avoidance goals.

Affective and Cognitive Self-control. To assess self-control participants filled out the relevant subscale adopted from the Volitional Components Inventory (VCI; Kuhl & Fuhrmann, 1998). Each subscale consisted of four items. Participants responded to all items using a 4-point Likert-type scale from *completely disagree* (1) to *completely agree* (4). *Affective self-control* was assessed by self discipline and anxious self motivation. Accordingly, example items of this scale are "You have to pull yourself together very often in life" and "Very often I only get going by imagining how bad I will feel if I don't do my business." The Cronbach's alpha for this scale was .67. *Cognitive self-control* was assessed by goal imagination and ability to plan. Corresponding items are "I bring to mind a few times each day what has to be done" and "I make a plan before I start working on something". The reliability of this subscale was α = .71 (Cronbach's alpha).

Results

Descriptive Statistics

The means, standard deviations and intercorrelations of goal conflict, perseverance in avoidance goals and affective/ cognitive self-control are shown in Table 10.

Relationship between Affective Self-control, Goal Conflict and Perseverance in Avoidance Goals

Perseverance in avoidance goals was marginally correlated with goal conflict at T2 (r = .22, p = .07), whereas the relationship between perseverance in avoidance goals and goal conflict at T1 did not reach significance (r = .09, p = .46). This indicates that participants who selected a

large amount of avoidance goals at T1 and insisted in avoidance goal striving perceived more conflict between their academic and leisure goals.

Affective self-control significantly correlated with goal conflict (T1: $r = .24$, $p < .001$; T2: $r = .18$, $p < .01$) and perseverance in avoidance goals ($r = .28$, $p < .05$), whereas cognitive self-control correlated with neither goal conflict (T1*:* $r = .06$, $p = .30$; T2: $r = .03$, $p = .67$) nor perseverance in avoidance goals ($r = .04$, $p = .74$). To summarize, people who strongly control themselves affectively through self discipline and anxious self-motivation tend to report more goal conflict and an accumulation of avoidance goals during the semester.

Table 10 Means, Standard Deviations and Intercorrelations of Goal Conflict, Self Control and Perseverance in Avoidance Goals and Self-control (Study 2)

Variables	*M*	*SD*	*Min*	*Max*	*1*	*2*	*3*	*4*
1. T1 Goal Conflict	2.74	.55	1.25	4.88	-			
2. T2 Goal Conflict	2.58	.57	1.25	5.00	.56***	-		
3. Perseverance Avoidance Goals	.04	.14	-.27	.38	$.09_a$	$.22†_a$	-	
4. Affective Self-Control	9.59	2.44	4.00	16.00	.24***	.18**	$.28*_a$	-
5. Cognitive Self-Control	11.38	2.38	5.00	16.00	.06	.03	$.04_a$	.11

Note. N = 283; ^{a}N = 70; Perseverance in avoidance goals was calculated in a way that higher values indicated perseverance in avoidance goal striving during the semester.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Differences in Perseverance in Avoidance Goal Groups on Goal Conflict

In a further step we analyzed whether a decline in avoidance goals was associated to significant decline of goal conflict by comparing two groups of strong vs. low perseverance in avoidance goals. For this we made a median-split on the perseverance of avoidance goal variable. Participants with a perseverance value greater or equal than the median were

assigned to the strong perseverance group and participants with a value less than the median to the low perseverance group.

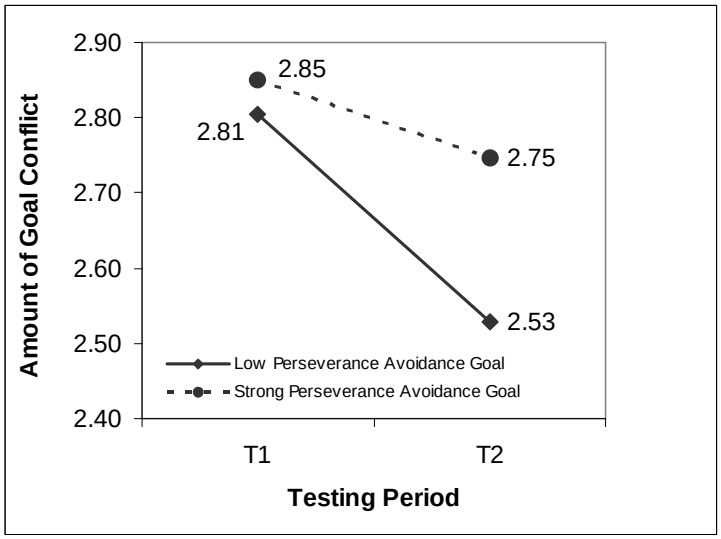

Figure 4 Goal Conflict at both Testing Periods in Perseverance in Avoidance Goal Groups (Study 2)

Note. Low Perseverance Avoidance Goal Group N = 36, Strong Perseverance Avoidance Goal Group N = 34

When considering the difference of goal conflict within each group over the course of the semester, the strong perseverance avoidance goal group showed no significant differences between goal conflict at T1 (M = 2.85, SD = .64) and goal conflict at T3 (M = 2.75, SD = .59), $t(35) = .28$, $p > .05$). However, in the low perseverance avoidance goal group, goal conflict significantly decreased from T1 (M = 2.81, SD = .45) to T3 (M = 2.53, SD = .52), $t(33) = 4.00$, $p < .001$ (see figure 4). The effect size of this decline was $r = .57$. Adhering to avoidance goals during the semester is therefore associated with a constant perception of goal conflict whereas reducing avoidance goals lead to less goal conflict towards the end of the semester.

Perseverance in Avoidance Goals as Mediator between Affective Self-Control and Goal Conflict

In a final step we tested whether the perseverance in avoidance goals mediated the relationship of affective self-control and goal conflict. Several regression analyses were conducted following the suggestion of Baron and Kenny (1986) to test mediational variables.

Affective self-control positively predicted perseverance in avoidance goals (β = .28, p < .01), and perseverance in avoidance goals in turn positively predicted the perception of goal conflict (β = .22, $p \leq .05$). Simple regression analyses showed that affective self-control positively predicted goal conflict (β = .18, p < .001), but when perseverance in avoidance goal was held constant in a multiple regression, the relationship between affective self-control and goal conflict was no longer significant (β = .06, *ns*). The Sobel (1982) test failed to reach significance (z = 1.47, p = .14), indicating the relationship of affective self-control on goal conflict is only partially mediated via perseverance in avoidance goals. In other words, a person who controls herself through self-discipline and anxious self-motivation subsequently does not reduce her predominant avoidance goal during the course of semester, but rather adheres to avoidance goals. The perseverance in avoidance goals, in turn, is associated with stronger goal conflict.

Brief Discussion

With this study, we contributed to the question of motivational antecedents of goal conflict. We focussed especially on the dynamic aspect of perseverance in avoidance goals and the preceding self-regulatory competence of affective self-control.

First, students who were strongly committed to avoidance goals in the beginning of the semester either succeeded in reducing their avoidance goal orientation during the semester, hence prioritizing approach goals, or adhered to their avoidance goals once adopted in the beginning of the semester. This perseverance in avoidance goal was positively related to their

reported goal conflict. That is, both groups of participants claimed a strong amount of goal conflict at the beginning of the semester, whereas those who reduced their avoidance goals also reduced their goal conflict. Therefore, avoidance goals and goal conflict seem to be strongly connected with each other, as already demonstrated in Study 1.

Second, people with a strong inclination to affective self-control reported more goal conflict. This indicates that people perceiving high goal conflict apparently control their behavior through self-discipline effort and anxious self-motivation. Note that the ability of goal imagination and planning was not associated with goal conflict so that one can not suggest that focussing on goals or planning the day could compensate for the perception of goal conflict.

Third, the relationship of affective self-control and goal conflict is partially mediated through perseverance in avoidance goals during the semester. In other words, whipping oneself from one event to the next and focussing on what could happen in the worst case elicits a focus on negative outcomes which is reflected in self-regulation that constantly focuses on avoidance goals and subsequently leads to high goal conflict.

The hypothesized motivational antecedents of goal conflict, that is perseverance in avoidance goals and affective self-control, were explored in Study 1 and 2. Additionally, Study 1 highlighted that academic-leisure goal conflict in the beginning of the semester substantially predicted performance impairment at the end of the semester.

The question remains *how* goal conflict in December could be related to performance impairment several months later. It has been argued that once confronted with goal conflict people normally develop priority systems which imply that the attainment of one goal should be viewed, at least temporarily, as more important than the other (e.g., Kernan & Lord, 1990). In case of performance impairment as a result of goal conflict, cognitive strategies which are necessarily associated with the development of a priority system are probably interfered.

We suggest that developing goal priority systems involves basic cognitive strategies. First, people have to anticipate interfering actions in connection with goal conflict (e.g., noticing that the appointment for the learning group is at the same time as the volleyball training). Next, they must make correct decisions allowing for importance and immediacy in order to delegate some goal-relevant actions, to concentrate on them or even to disengage from them (e.g., asking peers to start with the learning group two hours earlier or sending the elaborated script to all colleagues in advance and asking someone else to protocol the most important questions or insights of the meeting). With the following study, we attempted to explore in more detail the link between goal conflict and possible cognitive strategies in dealing with goal conflicts.

Study 3: Goal Conflict and its Consequences on Cognitive Strategies

In Study 3 we were interested in the relationship of goal conflict and cognitive strategies involved in resolving this conflict. Kernan and Lord (1990) proposed that goal conflict could be solved from individuals by the generation of a goal priority system. Thus, we concentrated on the two cognitive strategies *anticipating problems* and *decision-making* which we thought might be important in the prioritization of personal goals. For this purpose a scenario study was carried out in which participants had to take the perspective of an employed family-father who has to coordinate multiple business and family inquiries. We expected goal conflict to be related to these strategies and argue that these strategies might constitute the basis for performance impairment.

Method

Participants and Procedure

Thirty employees (15 women, 15 men) participated in this study. The average age was 36.3 (*SD* = 11.82) years. Participants worked in small groups of maximal four persons on an in-basket exercise. Participants were informed that they would work on a task that is very often applied in human resources development to test certain qualifications of employees. They then read the instruction of the task on which they worked the next 25 minutes while taking the perspective of an employed family father. After 25 minutes, the study advisor stopped the task and distributed a short questionnaire which assessed some demographic data and the participants' perception of goal conflict between family and business goals within the scenario. At the end, participants were thanked for their participation and received a verbal funnel debriefing from the study advisor.

Material

Task. An in-basket exercise is an assignment within an assessment-center which is applied in human resources context to test specific qualifications of an applicant. Within a given time-slot the applicant has to work on different written inquiries (e.g., notes, emails, official letter, paper-article etc.) that represent the inbox of a manager. These inquiries are distinct in their urgency, complexity, importance and effect on organizational interest and since they coincide chronologically, the applicant has to decide very quickly which of the inquiries has to be handled first and which of them could be delegated (Höft & Funke, 2006).

For the purpose of this study, we complemented an existing in-basket exercise (in-basket "Herr Frühauf", www.psychologie.uni-wuerzburg.de/fips/skripten/neu/haupt/abo/ReaderAC1.doc, Retrieved November 27, 2006) with family-related private inquiries. Mr. Frühauf, an employed family father of two children, who returned to his office after a long business journey, was the central person of the in-basket. He only had few hours to manage diverse

business and family processes, since he will have to leave again for another business journey. When he arrives in his office, he finds some notes, emails and telefax messages requiring his presence (e.g., his wife reminded him that they had an appointment with the headmaster of their son, his assistant pointed out the business lunch with the CEO) or decisions (e.g., the assistant informs him about the poor accomplishment of the new interne or the gardener wants to know which flowers he will have to plant), thereby inducing conflict between business and family inquiries. Six notes concerned business projects, five notes were important for family and private projects. Mr. Frühauf is a person to whom family and business are very important. We asked participants to take the role of Mr. Frühauf and to work on the eleven inquiries in the given 25 minutes.

Goal Conflict. Participants indicated with six items how they perceived the conflict between private family and business concerns induced throughout the scenario of Mr. Frühauf. These items were based on existing assessment of goal conflict (Riediger & Freund, 2004) asking for different goal conflict directions and reasons of goal conflict. Two items were a general assessment of conflict ("I perceived a conflict between my business and family-related concerns" and "I succeeded to reconcile my business and family-related concerns", recoded). Four additional items focused on the direction of conflict and possible reasons for the conflict (e.g., "It happened very often that I wanted to do something for my family/ business concerns, which was not reconcilable with my business/ family concerns"). Participants hat to rate their agreement with these items on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). We aggregated the six items to a single goal conflict index (Cronbach's α = .81).

Cognitive strategies. We assessed anticipating goal-relevant problems and decision-making, two different cognitive strategies within the in-basket exercise. Participants were asked to write down on every inbox document which problem they think would be associated with that inquiry and how they decided to handle this problem. Before coding the answers of

the participants, a sample solution concerning all eleven inquiries was rendered. Two independent raters coded the false and correct problem anticipating and decision-making, resulting in four different scores: the amount of false/ and correct problem anticipating and the amount of false/ and correct decision-making.

Overall Performance. An overall performance index was calculated by subtracting the sum of false problem anticipating and false decision-making from the sum of correct problem anticipating and correct decision-making, divided by the amount of processed documents. With this index we weighted the completeness of processing because making 5 points working on only 3 documents resulted in a lower index than making 5 points working on 5 documents.

Results

Descriptive Statistics

Table 11 displays the descriptive statistics of goal conflict, cognitive strategies and different performance variables.

Table 11 Descriptive Statistics of All Variables (Study 3)

Variables	*M*	*SD*	*Min*	*Max*
Goal Conflict	3.40	.74	1.50	4.67
Amount of Correct Problem Anticipating	5.10	2.80	.00	14.00
Amount of False Problem Anticipating	4.20	2.57	.00	9.00
Amount of Correct Decision-Making	8.23	4.60	.00	18.00
Amount of False Decision-Making	1.17	1.20	.00	4.00
Amount of Processed Documents	9.07	1.86	6	11
Overall Performance	72.47	66.07	-30	330

Note. N = 30

The mean of correct problem anticipating was *M* = 5.10 (*SD* = 2.80) and of false problem anticipating *M* = 4.20 (*SD* = 2.57). Because some of the documents contained more than one organizational problem the maximum of problem anticipating (*Max* = 14.00) was greater than the total amount of documents (*N* = 11). The same was true for the amount of decision-making. With some documents containing more than one organizational problem and also multiple ways of correct decision-making, the maximum amount of correct decision-making was 18.00, whereas the mean was 8.23 with a considerably high standard deviation (*SD* = 4.60). The amount of false decision-making was rather small with a mean of *M* = 1.13 (*SD* = 1.20). All in all, the average amount of processed documents (i.e. documents containing rateable notions) was 9.07 (*SD* = 1.86), indicating that the time-slot of 25 minutes was just about enough to work on all documents.

Relationship between Goal Conflict, Cognitive Strategies and Performance

Since the overall performance index violated the central parametric assumption of normally distributed data, we ran spearman correlations between goal conflict, cognitive strategies and overall performance (see Table 12).

Table 12 Spearman Correlation between Goal Conflict, Cognitive Strategies and Overall Performance (Study 3)

Variables	Goal Conflict
Amount of Correct Problem Anticipating	-.02
Amount of False Problem Anticipating	.08
Amount of Correct Decision-Making	-.32*
Amount of False Decision-Making	.34*
Amount of Processed Documents	.06
Overall Performance	-.34*

Note. N = 30. *$p < .05$

Goal conflict significantly correlated with the total performance index (r_s = -.34, p < .05) which was probably due to the association of the amount of correct (r_s = -.32, p < .05) and false decision-making (r_s = .34, p < .05). However, there were no significant relationship with the amount of correct (r_s = -.02, *ns*) or false problem anticipating (r_s = .08, *ns*) or the amount of processed documents (r_s = .06, *ns*). This indicates that the higher a participant perceived a conflict between business and private concerns the less correct decisions and the more false decisions he made while working on the inbox task. In contrast, goal conflict was not associated with the ability to anticipate organizational problems nor with the amount of documents the participants worked on.

Brief Discussion

With this study we could show that perceived conflict of family- and work-related concerns was negatively associated with cognitive strategies of goal conflict solving. This was especially attributed to a lack in decision-making. Whereas the ability to anticipate action-related problems was unrelated to goal conflict, people reporting strong goal conflicts have difficulties to decide efficiently how to deal with action-related problems of different goals. We suppose that false decision-making as self-regulatory activity in the initiation of goal priority systems could be one possible reason of performance impairment. However, since the data are correlational in nature, we can not give causal explanations to any direction of the findings.

General Discussion

Our studies focused on motivational antecedents of goal conflict and its possible outcomes and were guided by three crucial aims. The first aim was to explore whether avoidance goals, in particular the *perseverance* in avoidance goals, predicted an increase in conflict between personal goals in the domains of work and private life. The second aim was to study individual self-regulatory competence, namely affective self-control, to be positively related to goal conflict. This relationship was expected to be mediated by the perseverance in avoidance goals. With our third aim, we addressed research questions regarding the consequences of goal conflict. Specifically, we studied performance impairment as negative outcome of academic-leisure goal conflict. Furthermore, we explored which cognitive strategies associated with the successful dealing of conflicting goals, for instance the establishment of goal priority systems, would be mostly affected through goal conflict. Finally, we attempted to replicate implications on different well-being facets.

Motivational Antecedents of Goal Conflict

Avoidance Goal Striving. In line with our hypothesis, striving for avoidance goals, as opposed to striving for approach goals, in different life domains predicted conflict of personal goals between these life domains. That is, people who strive for avoidance goals in both their work life domain (e.g., not missing a deadline or avoid making a bad impression) and also in their private life domain (e.g., not losing contact to friends or avoid having no time to relax) are more likely to report problems of integrating these goals in their everyday multiple goal pursuit.

Presumably, this could be due to a series of negatively biased cognitive processes that, as a consequence of avoidance goal striving, increase the vigilance for the negative-cued information with regard to the every-day task of integrating multiple goals (e.g., Now, that I

stay longer in the office, I won't be able to meet my friends, as already arranged three weeks ago). Processing negative-cued information, as evidenced by researchers of social cognition psychology, leads to a specific process-style which narrows attentional flexibility, constricts attentional scope and focus upon local perceptual details instead of broad attentional flexibility and scope (Förster et al., 2006; Friedman & Förster, 2001, 2005). These biased cognitive processes may provoke the feeling of not being able to integrate goals of different life domain, thereby causing perceived goal conflict.

The present study contributes to the existing research focussing on the systematic investigation of motivational antecedents of goal conflict. Whereas Senécal and her colleagues (2001) concentrated on self-determination within different life domains as important factor, we illustrated that avoidance goals in different life domains play a central role in the emergence of goal conflict. Moreover, the associated findings of avoidance goals on affective and cognitive processes provide a prolific basis to further investigate the mediating mechanisms of the relationship between goal orientation and goal conflict.

Taking into account the dynamic change of avoidance goals (e.g., Fryer & Elliot, 1997), we highlighted that a decrease in the amount of avoidance goals is related to a decrease in goal conflict. This illustrated that only those individuals who insisted in the selection of avoidance goals were confronted with enduring goal conflict. This perseverance in avoidance goals, on the other hand, is likely to be predicted by a modus of self-regulation characterized through a negative focus in emotion and cognition, namely affective self-control (Kuhl, 2006; Kuhl & Fuhrmann, 1998).

Affective Self-Control. We assumed that people high in affective self-control should also report more goal conflict. This relationship was hypothesized to base on people's preference for self-regulation strategies which incorporate the same focus on possible negative events. Therefore, people high in affective self-control should constantly strive for avoidance goals which were presumed to mediate the relationship between affective self-control and goal

conflict. Our data clearly support this assumption. Affective self-control, consisting of the control mechanisms of self-discipline and anxious self-motivation, was positively associated with goal conflict, whereas the relationship was partly mediated by the perseverance in avoidance goals. For example, the more an individual disciplines herself on sustaining the focus on a relevant goal and the more this person anticipates the negative consequences following her decision to refrain from what she should do for it, the more she will focus on negative outcomes in her personal goals (e.g., not to miss the deadline on Monday morning, and not to spend another whole weekend working instead of striving for some private goals). Accordingly, this negative focus in avoidance goals is related to a stronger perception of goal conflict.

As affective self-control is directed to hypothetical failed outcomes, we suppose that for people with a strong inclination in affective self-control, avoidance goals represent a somehow "optimal" strategy to strive for their self-management concerns. However, the association of affective self-control and avoidance goals could be due to an increased sensitivity for negative outcomes. Negative outcomes have already been linked to a preference of avoidance goals in previous work (Elliot & Thrash, 2002; Gray, 1978).

To summarize, goal orientation and individual self-regulatory competencies are crucial underlying factors in the emergence of goal conflict. We could demonstrate that avoidance goals in different life domains and dispositional affective self-control predicted an increase in goal conflict.

Consequences of Goal Conflict

Performance. We hypothesized that conflict between work and private goals would result in performance impairment. Since we thought that the perception of goal conflict would normally engender activities trying to integrate these goals (e.g., prioritizing the goals in question) we explored two different cognitive strategies that are likely to be involved in

establishing goal priorities (Kernan & Lord, 1990). We assumed that, given the situation of performance impairment, these cognitive strategies should be negatively related to goal conflict and, as a consequence, could theoretically constitute a mechanism of the negative goal conflict-performance relationship.

Consistent with our expectations, conflict between academic and leisure goals in the beginning of the semester resulted in impaired study performance at the end of the semester. This result nicely complements previous findings of performance impairment due to conflict between work related goals (Barling et al., 1995; Locke et al., 1992). Not only conflict between job-related goals, but also personal goal conflict between work and private life domains is related to performance impairment. This can be explained by the finding that in postmodern societies both professional and leisure activities are regarded as equally important (Inglehart & Baker, 2000). In order to operate most efficiently individuals should realise their goals within both work and private life domain.

In addition, our work suggests that a decline in performance could accrue from maladaptive decision-making. Study 3 showed that people who reported experiencing strong goal conflict whilst they were working on the in-basket exercise also attained lower performance level within that exercise. Further analyses revealed that performance detriment was based on interfered cognitive strategies of decision-making. More specifically, because goal conflict represents a strenuous motivational state that occupies energy to concentrate, people possibly make dysfunctional decisions. Hence they might prioritize goals that are less important. These dysfunctional decisions will, on the one hand, impair subsequent performance and possibly, on the other hand, further increase the perceived goal conflict, leading to a vicious cycle. It will have to be the aim of future studies to test the hypothesized reciprocal relationship between decision-making ability and goal conflict.

Well-Being. In our first study we tried to replicate findings of goal conflict implications on different well-being facets (Emmons & King, 1988; Kehr, 2003; Riediger & Freund,

2004). The data supported our hypothesis that academic-leisure goal conflict was negatively related with positive affect and health ratings, whereas negative affect was positively related to goal conflict. These findings illustrate that goal conflict between academic and leisure goals is associated with heavy losses on psychological functioning.

Interestingly, we found that when individuals perceived their academic goals impeding their leisure goals, they stated a decrease in study satisfaction. People consequently tend to disapprove of their study environment because they might attribute this imbalance to overcharging demands in that life domain. Research in organizational psychology refers to dissatisfaction as a key variable in intentions to leave an organization or actual turnover (Cotton & Tuttle, 1986; Vandenberg & Nelson, 1999). According to this assumption a decline in study satisfaction could be the initial step of the intention to leave the university. We suppose that helping students to integrate their academic goals with their leisure goals would possibly prevent students to abandon their studies.

Limitations and Future Directions

A number of limitations of the reported studies should be acknowledged. First, although our study provides preliminary evidence that avoidance goals are predictive of changes in goal conflict, it does not allow firm conclusions to be drawn about direction-of-causality issues. For instance, the present research does not exclude that people perceiving strong goal conflict more often adopt avoidance goals. VandeValle, Cron & Slocum (2001) demonstrated that avoidance goals, as opposed to approach goals, were related to lower difficulty levels. Therefore, people with strong conflict between their goals are likely to reduce the difficulty level of these goals by formulating them as avoidance goals. This issue awaits further examination in experimental studies.

Second, even if avoidance goals were the cause of goal conflict, we do not know *how* the emergence of goal conflict is related to avoidance goals. On the one side, people who

strive for avoidance goals as opposed to approach goals have difficulty to realise them (Elliot et al., 1997). Thus, inhibited progress on goal pursuit could be linked to goal conflict as it is already mentioned in the definition of goal conflict. On the other side, as mentioned above, biased information processing-styles could be linked to goal conflict. Future research should address these possible explanations of underlying mechanisms between avoidance goals and goal conflict.

A third limitation concerns Study 3 in particular, where we tried to induce personal goal conflict by assigning of different inquiries of a fictitious person. One could argue that the presented inquiries did not correspond to personal goals, thus rather assessing a conflict between different activities than goals. Yet, participants had been instructed to seriously take the perspective of that person who had been introduced as someone who is very highly committed to both family and business concerns. We therefore assume that participants reformulated the presented inquiries into personal important goals.

Finally, although we drew our samples from people with different "working background", that is employees from different organizations and students involved in academic environment, one point worthy of further inquiry is to examine the generality of our findings by investigating idiographic work-family goal conflict in a sample of employees with children (for example Allen, Hurst, Bruck, & Sutton, 2000; Greenhaus & Beutell, 1985; Kossek & Ozeki, 1998; Wiese, 2004). Socio-structural development requires men and women to be both employed so that they are confronted with the simultaneous organization of their family goals. Research on motivational determinants and organizational outcome variables within this sample would enable us to draw more general conclusions of our findings.

Conclusions

The purpose of our study was to link motivational antecedents and consequences to work and private goal conflict. Our investigation yielded encouraging results suggesting that avoidance goal striving in different life domains and affective self-control are integral to a person's sense of goal conflict which is, in turn, linked to a decline in performance and well-being. A first verification showed that this decline could possibly be attributed to a lack of decision-making ability when confronted with the strenuous motivational situation of goal conflict. Yet, with further advancement of measurement and design, there is a good deal we need to learn about how avoidance goals in different life domains are involved in the experience of competing goals.

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